



Transmission Line 637
San Diego Gas and Electric
“The Witch Fire 2007”
“The Cedar Fire 2003”

Transmission Line 682
“The Paradise Fire 2003”

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HOW DID IT HAPPEN?
Is there a link that started them all?

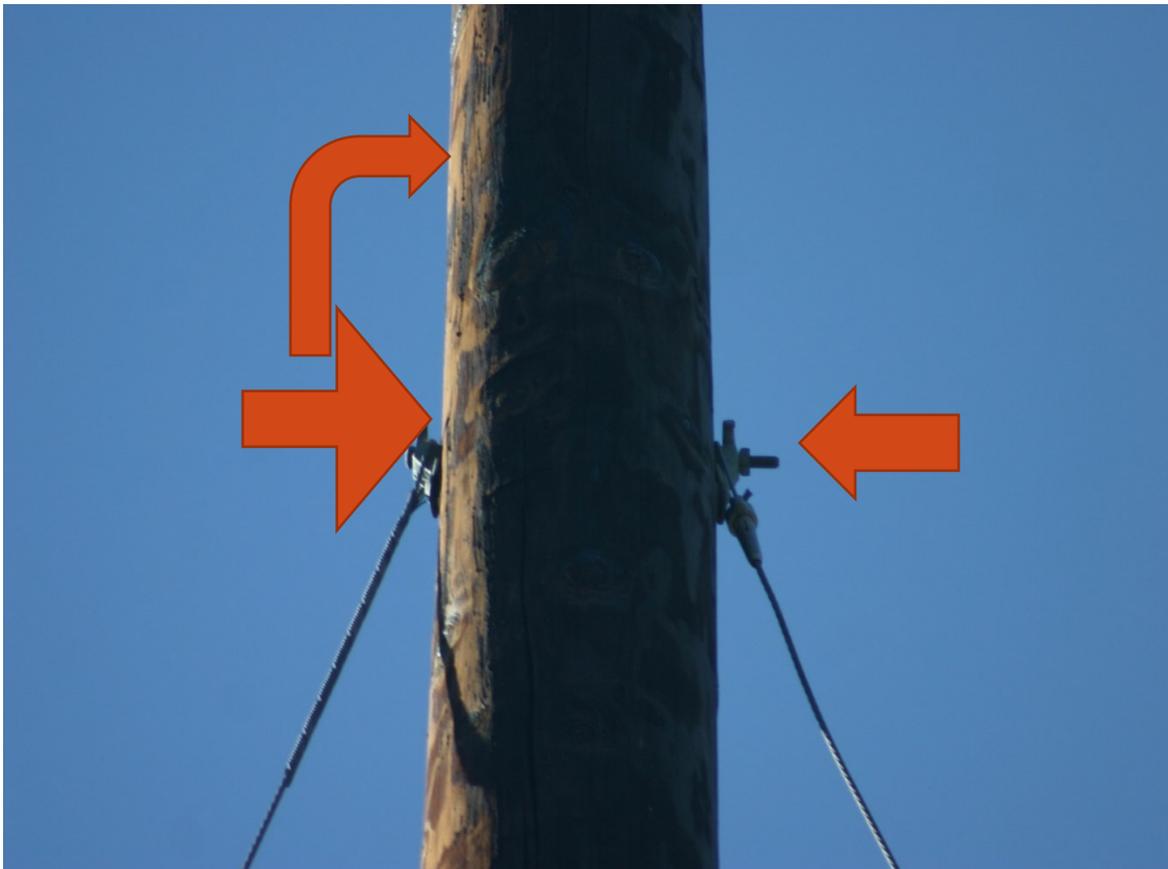
DOWN GUY CONSTRUCTION

**1. Attached at same location on pole
“WRONG”**

**2. Insulators not utilized!
“WRONG”**



Down Guys Attached at the Same Point :
“WRONG”



**“ Must have
12 inches
Vertical
Clearance or
use
Insulators”**

Public Utilities Commission
of the
State of California
Rules for Overhead Line Construction

- **Public Utility Commission : General Order 95:**
- **RULE – 56.4 Clearances**
- **Overhead guys or Span wires: Where two or more span wires are approximately parallel and attached to the same pole, either or both or which support conductors, such guys or span wires shall have a vertical Separation of at least “1-foot between points of attachment on the pole”.**

In Cases where:

- ***such Separation is not Practicable, there means to insure the effectiveness for the guy or span wire “INSULATORS SHALL” be employed***

An aerial photograph of a residential neighborhood at dusk. The houses have red-tiled roofs and are surrounded by trees. In the background, a large fire is burning, with bright orange and yellow flames rising into the dark sky. The overall scene is dramatic and highlights the danger of the situation described in the text.

VIOLATION by: San Diego Gas and Electric

Transmission Line 637, entire line and parts of Transmission Line 682 is constructed with guy wires attached at the same point “*WITHOUT SEPARATION*” and “*WITHOUT INSULATORS*” allowing current to flow in the guy wires, thus causing “ARCING” at the ground level igniting dry brush and “*STARTING FIRES*”

What's the Problem ?????

Down guys attached at the same location allows:

- **1. For ground current to flow in one anchor and out the other resulting from system disturbances or**
- **2. From induced VOLTAGE created by the induction from the 69kv lines, either from normal load or potentially from through faults resulting from points of attachment close to conductors.**

There is no Excuse!

- **There is not any argument for explaining how there could possibly be arcing where current is not supposed to exist!!! WHICH CAUSES ARCING AT GROUND LEVEL!**
- **There is no excuse or argument for not being in compliance with GO-95.**
- **There is no excuse that this did not get revealed following the Paradise and the Cedar Fire by Utility Engineers in 2003**

Down guys attached at the same point
allows current to flow:
LOOSE CONNECTIONS = ARCING



Dry Brush
Arcing
Low Humidity
High Winds

FIRE





Dry Grass
+
Arcing

FIRE

Dry Grass
=
Fuse for Fire





Dry Grass at
Point of
Arcing

More Arcing





Lab Reports show the following:

O,C,Si,Fe,Zn,Al,Ca,Mg,K, i

Note: This particular sample was from the “CEDAR FIRE”

Lab results show high contents of Carbon from ARCING





Carbon resulting from Arcing



Ground rods found at various locations??

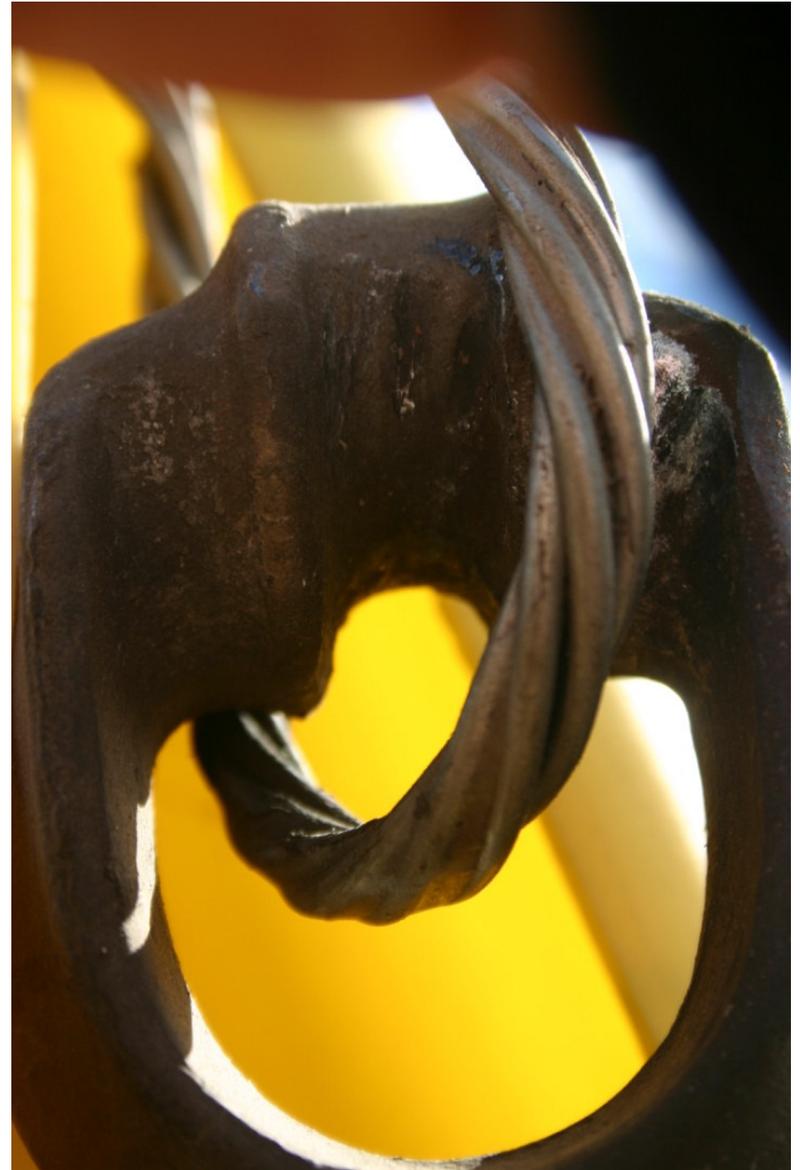




Same down guy construction attached at the same point without vertical clearance or the use of insulators, multiple locations.



Loose Down Guy
Attachments at Anchor,
Poor contact = Arcing





More Arcing



Discoloration from Heat generated by arcing



Carbon Build up from Arcing



Discoloration From Heat



Carbon build up, different type attachment



START OF Witch FIRE !!!!



START OF Witch FIRE !!!!





Transmission Line 682

The Paradise Fire

Same problem exists as
“Transmission Line 637”

The Paradise Fire

Transmission Line 682

- **Same Problem as Transmission line 637**
- **The Down Guy Construction is a system wide problem.**
 - **Found the start of the Paradise Fire 12/15/07.**
 - **The Cedar Fire overlaps with the Witch Fire.**
- **Pulled samples from poles associated with the Cedar Fire and not the Witch Fire. Positive for Carbon and Arcing.**

Paradise Fire









URGENT SAFETY ALERT FOR ALL ELECTRIC LINE CREWS, WHERE THIS CONDITION EXISTS

- **Treat down guys as hot!**
- **Do not get in series with down guy and anchor while tightening**
- **When separating and adding another point of attachment, utilize shunts while handling: “DO NOT GET IN SERIES WHILE ON POLE!”**
- **Add Insulators on one side or the other when adding new point of attachment to prevent a lineman from grabbing both conductors if climbing the pole.**

VIOLATIONS STILL EXIST

PUBLIC SAFETY IN JEOPARDY!

Requires immediate correction by San Diego Gas and Electric to **Prevent** future fires causing:

“Catastrophic LOSSES, Injury or Death”

CONCLUSION

- **San Diego Gas and Electric has a system wide INSTALLATION/DESIGN problem that has been the source of FIRES for many years and have gone undetected.**
- **San Diego Gas and Electric is not in compliance with General Order 95 Rule 56.4 “Clearances” for down guy attachments on a pole.**
- **Requires immediate attention to provide for the safety of its employees and the public!!!!!!!!!!**

The End



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