

6th May 2025

Failed guy wire assemblies

ISSUE IDENTIFIED: Broken and corroded guy wire assemblies

Failed guy wire assemblies were identified during recent Service Provider routine patrol. The guy wire loop assembly connecting the porcelain guy insulators together failed due to severe corrosion.

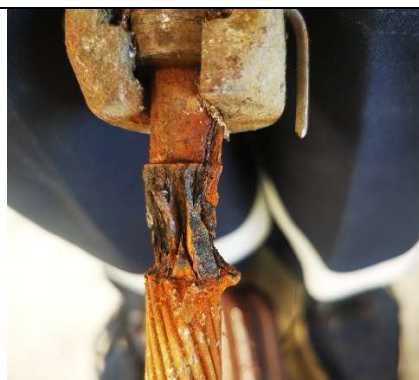
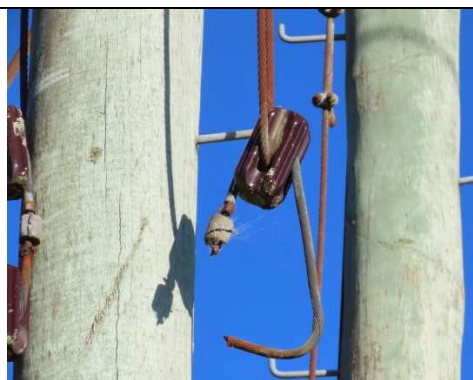
While no damage to assets or people occurred, the function these guy wire assemblies perform means a future failure may have a far more severe impact.

CONTRIBUTING FACTORS:

- A metallurgist's opinion was obtained on the failure of these guy loops (copper clad steel wire loop with galvanized steel ferrules pressed on each end) and they concluded that "a mix of metals is not good. In this case copper will be dominant, causing the zinc and iron materials to preferentially corrode."
- While these are fit for purpose from a design perspective, this is a manufacturer's design dating back to the 1960's that is non-standard today.
- Many of this design of guy loop are reaching end of life, along with other components in the guy assembly (e.g. the guy wire itself), but cannot be easily identified from ground level

ACTIONS TO PREVENT REOCCURENCE: Monitor during routine patrol and CA

- Educate staff on the potential issue of broken guy wire assemblies and the potential consequences
- Ensure those performing routine patrols and CA are aware and actively reporting issues identified
- When any component of a guy assembly reaches replacement criteria, the entire guy assembly is replaced with the new, standard design.
- Updates will be made to TP SS 02.98 and MCG-02.98 to add further guidance around guy wire assembly CA



LEARNINGS FROM THIS

- An older design of guy wire assembly failed due to galvanic corrosion
- Importance of condition assessments and checking other older assemblies – see photo (above right) for example of early corrosion. The rate of corrosion accelerates from this point.
- Inspection at height or with a drone is necessary to identify the extent of the corrosion



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