TRANSPOWER

SAFETY ALERT!

08.04.2025

Cable Snake MAD Near Miss

WHAT HAPPENED?

A team were installing cables into buried conduit. A fibreglass cable snake was being used as a draw wire, which got stuck in a section of the conduit.

A worker in an intermediate pull pit (away from the reel) pulled back on the cable snake to clear the blockage. An acute belly developed in the cable snake at the reel end, and the belly started to rise vertically into the air.

This continued until the belly reached 30-50cm above head height while under a live 220kV disconnector. The reel was not manned at the time.

Workers were not at risk to stored or inducted energy in the cable snake, however the risk of encroaching the live 220kV minimum approach distance (MAD).

It is estimated that the cable snake reached a distance 2.5m away from a live 220kV conductor. Minimum approach distance for a 220kV conductor is 2.2m for a competent worker.

IMMEDIATE ACTION TAKEN

- The hazard was spotted, which the team immediately mitigated by pushing the cable snake back down the conduit to bring the belly down to ground level.
- Transpower and the management team were notified of the near miss.
- Investigation into modifications/alternatives to the cable snake reel took place for understanding of how the belly forms and how to prevent/mitigate.

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ROOT CAUSE

Investigation into modifications/alternatives to the cable snake reel did not produce a result that prevents a belly forming, achieving only minor mitigations to the size/behaviour of the belly while introducing other downsides.

Root cause was that the reel did not have a team member allocated to it to ensure the snake spools on/off the reel smoothly, which has previously been identified as good practice for this activity in the past.

LEARNINGS

- Fibreglass cable snakes behave in unusual ways due to their material properties.
- When using a cable snake reel, one member of the team must be allocated to the reel to manage how the snake behaves as it enters/exits conduits as its properties mean it can behave in ways that have potential to breach MAD.

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