



LIVE LV CABLE SPIKED IN ERROR

- During a recent 6.6kV sub-station loop-in a live LV cable was spiked in error.
- The requirements of PSSI 5 were followed and no injuries were sustained.
- The LV cable was a radial feed supplied via 3No 315A fuses. It was later discovered that these fuses had blown instantaneously when the cable had been spiked.
- The 6.6kV cable to be spiked was a non-standard 6-core cable. This was isolated and earthed and a sanction for test (SFT) issued.
- Prior to the spiking, all cables in the vicinity were exposed and the cable identified using an approved signal injection unit. This process also eliminated the other cables in the vicinity. The injected signal was strong and gave the SAP full confidence that he had identified the 6.6kV cable and there were no traces of the signal in any of the adjacent cables.
- Believing the identified cable to be the isolated 6.6kV cable, it was marked by the SAP who then removed the circuit earths and tested the cable prior to spiking.
- Whilst in communication with the Control Engineer, the spiking was completed. Following this, no associated alarms were received and there was no bang or any other event that led the staff on site to believe a live cable had been spiked.
- The first indication of something not being right was when no change of conditions were experienced during the post spike insulation resistance tests.



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- Shortly after the live LV cable was spiked and unknown to the onsite staff or Control Engineer, the Incident Controller started to receive no supply calls from customers in the vicinity. These customers had no visibility of the SPEN staff working in the area so did not approach the SPEN staff to enquire if they had turned the power off.
- As there were no obvious indications that a live LV cable had been spiked and no customers were approaching the working party regarding no supply issues the onsite SAP wrongly assumed an unrecorded and abandoned cable had been spiked.
- For the whole duration since the incident, the spiking gun remained on the cable and untouched and the SAP then contacted a Zone engineer for assistance. The Zone engineer arrived on site and started to familiarise himself with the proceedings. During this time a Zone Technical Crafts Person (TCP) arrived, investigating the no supply calls and made his presence known to the working party.
- The TCP then discovered the fuses that had blown following the incident and the SAP and Zone engineer then concluded that an LV cable had been spiked in error, subsequently informing the Control Engineer.
- The LV cable was isolated, a strip and test was carried out and the spiked section of cable cut clear and the gun removed.

Recommendations and action points

It is not known why the SAP was misled on site by the signal injection process, however, if following a cable spike, no change of conditions are obtained then:-

- The onsite SAP should immediately inform the Control Engineer who will liaise with the Incident Controller to monitor any no supply calls in the vicinity.
- The on site SAP shall consider the possibility that a live cable has been spiked and undertake a local LV network check.
- Any spiked LV cable shall be treated in the same manner as a damaged LV cable.