Shared Learning

Electrical Industry Health & Safety Group

Critical Risk: Electricity

Event – CT Chamber Arc Flash Incident

Location - Customer's premises

What happened?

On 25th October 2025, a metering technician visited a commercial & industrial customer's premises to test and certify a CAT4 meter following site energisation. Shortly after completing the work and 60-90 seconds after the technician moved away from the CT chamber, a loud bang and flashover occurred in the chamber (an arc flash).

After recovering from temporary vision impairment, the technician made the site safe and reported the incident.

The ICAM investigation concluded that a piece of swarf left in the CT chamber during manufacturing or installation became mobile due to windy conditions and open doors, eventually contacting the lower red-phase busbar strap and triggering an arc flash. The resulting gases then ionized, resulting in a flashover across all three phases. It is extremely fortunate that this did not occur while the technician was working inside the CT chamber, moments earlier.

What did we learn?

Due to other works, there was no lighting in the switch room. To complete the work the technician installed temporary lighting, and the switch room doors were left open to allow daylight to enter.

On the day wind conditions were strong and blustery.

Swarf (metal drill spoils and copper strands) had not been removed from the CT chamber from previous work activities. This debris may have been blown or fallen into the chamber from above, through gaps in the chamber ceiling.

The switchboard design, although compliant, may have increased the risk of an arc flash event e.g. exposed bus work, which was not insulated or behind covers, clearances between phases and the CT chamber position.

The incident occurred on the Saturday of a holiday weekend – the contractor's after hours incident escalation process was limited. As a result, the client was not notified of this potential fatality incident until the following Tuesday.

CT Chamber, post-event