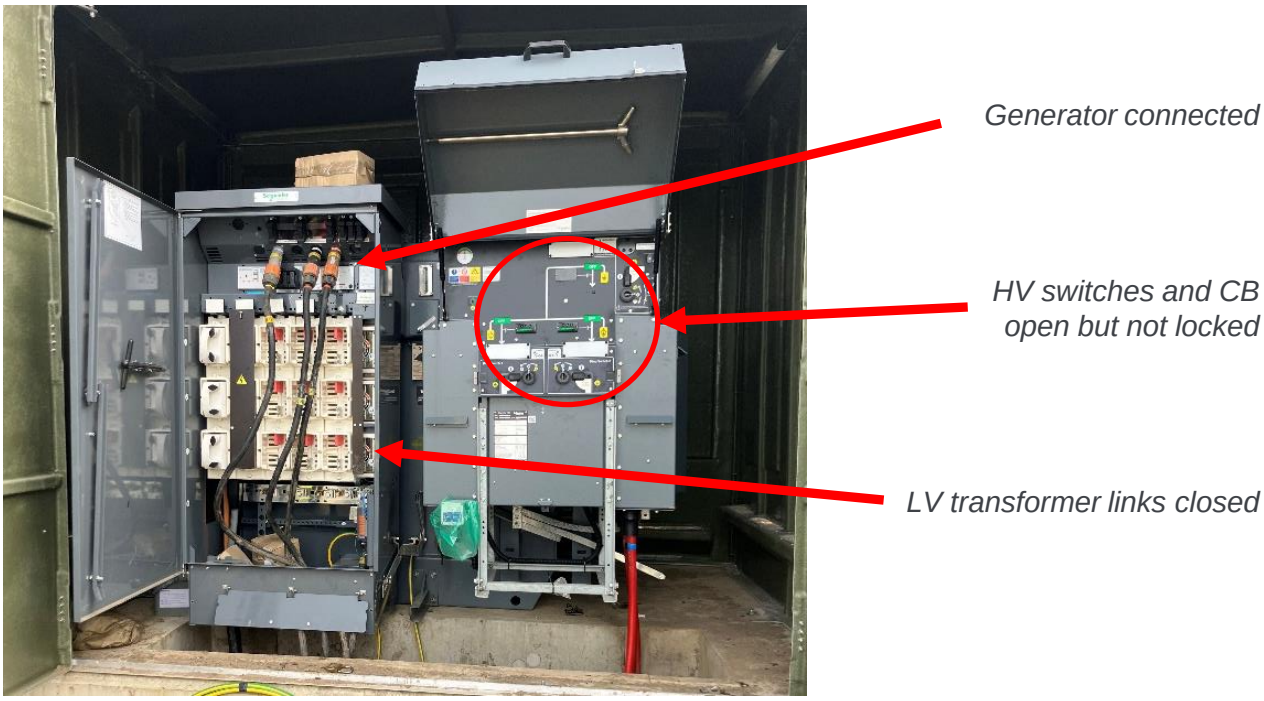
IDNO generator back-energised 11kV plant

There have recently been instances of a secondary substation being constructed by an IDNO / ICP and apparently ready for connection to the SPEN system where an LV generator has been found connected without electrical precautions in place.

In each case when a SPEN field engineer attended site for handover and to check status of work, the engineer found the generator had been connected to the LV fuseboard but the transformer links were closed, meaning that the transformer was being back-energised. It was fortunate that the 11kV ring switches and circuit breaker were open meaning that the connected cables remained dead – however **there was no point of isolation established**.

Thankfully there were no injuries arising from these near misses, however if work had proceeded – such as sawing off a capped cable end – the consequences could have been serious.



Recommendations and action points

- Always expect the unexpected when receiving handover of third party plant
- Use the SLAM approach – Stop, Look, Assess, Manage
- Although plant may not yet be part of the SPEN system, consider applying Safety Rule precautions in collaboration with the other parties involved to ensure safety during the checking and handover process
- Note that back-energised transformers usually result in the higher voltage having no earth reference which limits the effectiveness of protection systems and also constitutes an ESQCR breach.