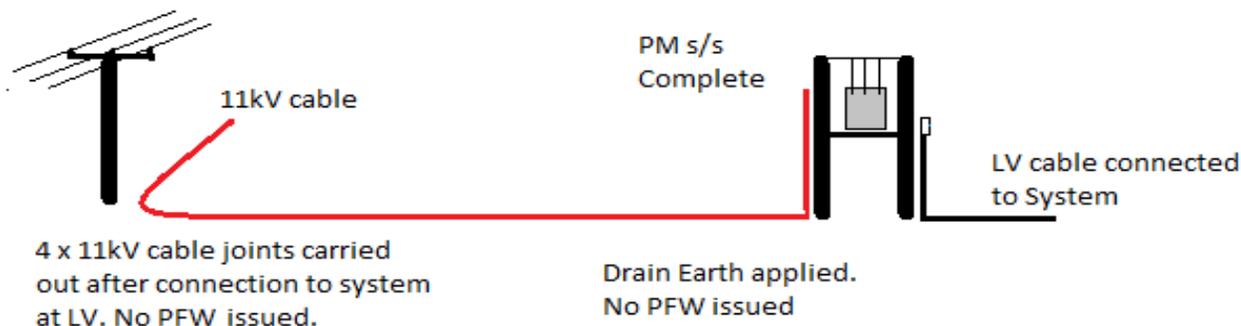




HV Jointing carried out on the System without a Safety Document

- On 15th March 2017 four HV joints were carried out on a new underground spur to a new PTE at Witches Craig Caravan Park, Stirling without any safety documents being in force at a time when the HV cable was part of the system.



- The LV cables from the substation were jointed to the LV network the previous day so the HV could have been back-energised by inserting the LV fuses. Therefore, the HV cables should have been considered as part of the system, a patch added to PowerOn diagram and safety documents issued for the jointing work. However, the HV jointing work went ahead without the patch or adherence to the Safety Rules.
- The investigation revealed several contributing factors to this significant near miss:
 - Failures in the design process resulted in an extremely tight delivery timetable. This put severe time pressure on the co-ordinator and distracted him from identifying the LV interconnection issue.
 - The SAP was allocated to the project at a late stage, meaning he did not have full appreciation of the work to be carried out – in particular the plan to interconnect at LV before completing the HV work.
 - The co-ordinator did not recognise that the HV was part of the system as per [OPSAF-11-024](#) (MSP 3.2). Therefore, he did not inform the staff working under his direct control that it was part of the system and that any further work should be carried out in accordance with the Safety Rules.

Recommendations and action points

- Where reasonably practicable new substations should not be connected at LV before the HV work is complete.
- If a transformer is interconnected to the LV network before the HV work is complete then the installation shall be added to the PowerOn diagram and work carried out in accordance with the Safety Rules.
- Co-ordinators and engineers should remind themselves of their responsibility under MSP 3.2 to ensure staff and contractors employed by the Company are notified that HV Apparatus is to be considered as being part of the System and subject to the Safety Rules before apparatus is passed to SAPs for connection to the system.
- All projects with HV apparatus or involving work at the HV/LV boundary should have a named SAP allocated as early as possible to ensure full understanding of the electrical elements of the work.