



## Working in Basements adjacent to BICC Trifurcating 33kV Joints

A high number of faults on the 33kV cable network have been associated with the failure of a BICC Trifurcating joint which contains a 3M component with a known failure mode. These joints were installed on the SPEN network between 2002 and 2010.

During recent repair works there have now been two separate incidents where other adjacent BICC joints have disruptively failed.

To further support the recommendations of the recently issued Safety Express ([EXP-10-427](#)), the additional precautions below shall be considered when working in basements or other enclosed spaces where there are BICC Trifurcating joints in close proximity to the work area.



### Recommendations and action points

- Operational teams and relevant contractors involved with working on or adjacent to 33kV cables shall make their teams aware of the details contained in this safety express and thoroughly examine cable records for joints of this type prior to starting work.
- Future work locations shall, where reasonable practicable, be surveyed well in advance of proposed work. Consideration should be given to replacing any BICC Trifurcating joints in advance or via a cable deviation which may reduce the time duration for the need to access the basement.
- Consideration should be given to de-energising circuits containing BICC Trifurcating joints which are adjacent to the work area.
- Consideration of reducing the potential fault level where practicable e.g. de-energising a GSP incomer
- Where circuits are de-energised to allow a number of joint replacements, one circuit at a time should be repaired. This approach will ensure that circuits can be re-energised to restore customer supplies should another fault develop.
- Where the above actions are not reasonably practicable, in addition to normal precautions when working in basements and enclosed spaces, suitable protection blankets shall be carefully placed over BICC Trifurcating joints in the vicinity. The blankets shall be secured with sandbags placed either side of the joint, which should remain in place for the duration of the repair works only. Sand bags shall not be placed on top of the joints. This short term measure saves joints being disturbed and ensures that the thermal capacity is not compromised.
- Sand bags shall be installed to create a barrier between the point of work and any other BICC Trifurcating joints.
- Appropriate PPE shall be worn when installing sand bags. This includes a minimum of flame retardant coveralls, full face visor and arc rated gloves.
- Access and egress shall be clearly defined in the Risk Assessment and method statements and clearly understood by the working party.