Safety Bulletin

NORTHERN POWERGRID

To:	**All Operational Colleagues and Service Partners**
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Work on specialist cables

This bulletin is in addition to Operational Bulletin 2020 03 and is issued following a recent flashover event involving work on a jute insulated triple concentric mains cable.

Authorisation and training requirements for work on concentric cables.

There are a limited number of permitted jointing activities allowed on concentric cables which require specific training and authorisation.

Only experienced jointers who have successfully completed specialist training and hold System Authority Code W2.7 can work on this type of cable.

Jute insulated concentric cables.

Jute insulation can dry out such that when the cable is manipulated the insulation may become detached from the conductors introducing a flashover risk.

It is important for all jointers to note that if jute insulation is identified during sheath removal of a low voltage concentric service cable or concentric mains cable, work must stop immediately until the cable is de-energised.

All phases in the cable must be de-energised to continue sheath removal and any further jointing work, i.e. no part of the cable can be live.

When a cable is de-energised, it shall be treated as live using live working techniques with live accompaniment.

If you are unsure about the insulation type of a particular cable **Stop and Seek Advice!**

Paper insulate multi phase concentric cables.

The following is allowed using established safe work procedures

- Removal of outer lead sheath with the cable live.
- Work on cables with oil impregnated paper insulation with the cable live.
- Removal of paper insulation and separation of phase and neutral conductors with the cable live. (Picture 1)

Picture 1 – PILC Service Cable

Paper insulated multi phase concentric cables.

The following is allowed using established safe work procedures

- Removal of the outer lead sheath with the cable live.
- Scrape the paper insulation away to reveal the outer layer of conductor with the cable live.
- If the outer layer of conductor proves to be live via testing, the cable must be de-energised to continue work.
- If the outer layer proves to be the neutral via testing, work can proceed to form the neutral into a core with the cable live. (Picture 2)
- Any further work on further layers of conductor requires the cable to be de-energised.
- All phases of the cable must be de-energised.
- Once the concentric layers are separated/formed into cores and insulated, the cable can be re-energised to allow testing and further work. (Picture 3)

Picture 2 : Neutrals lifted and underlying conductor tested

Picture 3 : Shrouding removed for clarity

Cable can be made live at this point but services must not be connected until after testing

What you need to do

- Take personal responsibility for your own safety and that of your colleagues.
- Implement approved working techniques in line with your training.
- Work as a team to ensure robust safe working practices and coordination of low voltage operations.
- Ensure you use approve PPE where required by policy and the safety rules.