CONTROL PLANT EQUIPMENT DESIGN LABELLING AND CABLING

Scope

This document describes materials, methods of engraving and fixing, and character sizes of equipment labels supplied for use on control panels, relay panels and other indoor and outdoor equipment. This document must be read in conjunction with the specification for labels on Control Panels, Relay Panels and other indoor and outdoor equipment - **DISSCAAK9 Rev 3.**

A. Protection Bays

Protection bays will be named in the following order:

- *Firstly identify the name of the bay and the number*
- *Secondly identify the voltage*
- *Thirdly identify the function*

Feeder Panel

Example of a fdr panel: **VULTURE 1 11kV FDR**,
VULTURE 2 11kV FDR

Size: *400x36mm with character size (TEXT) of 20mm high, to be fitted in a 400mm sliding or slip in holder.*

Figure 1: An example of a fdr panel

If there is more than one fdr in a panel with different voltage levels, the panel will be named: **11kV FDR PANEL** or **22kV FDR PANEL** according to the operating voltage and this will help the operator to identify the voltage level or panel that he/she is working with, to avoid operating errors.

Transformer Panel

Example of a trfr and tap change panel:

Trfr Label: **TRFR 1 132/22kV** (NB: The word Transformer must be shortened to be **TRFR**).
Tap Change Label: **TC 1 132/22kV** (NB: The word Tap Change must be shortened to be **TC**).
Size: *400x36mm in a sliding holder of 400mm length, character size 20mm.*

Figure 2: Example of a trfr panel

Example of Transformer fdr panel:

Label: **TRFR 1 BEESHOEK 1 132/11kV**
Size: *400x36mm in a sliding holder of 400mm length, character size 20mm.*

B. Metering Panel

Voltage level will only apply when one voltage level is planned for.
Please indicate clearly whether stats or tariff e.g.:

METERING PANEL 1 22kV
STATS METERING PANEL OR
TARIFF METERING PANEL

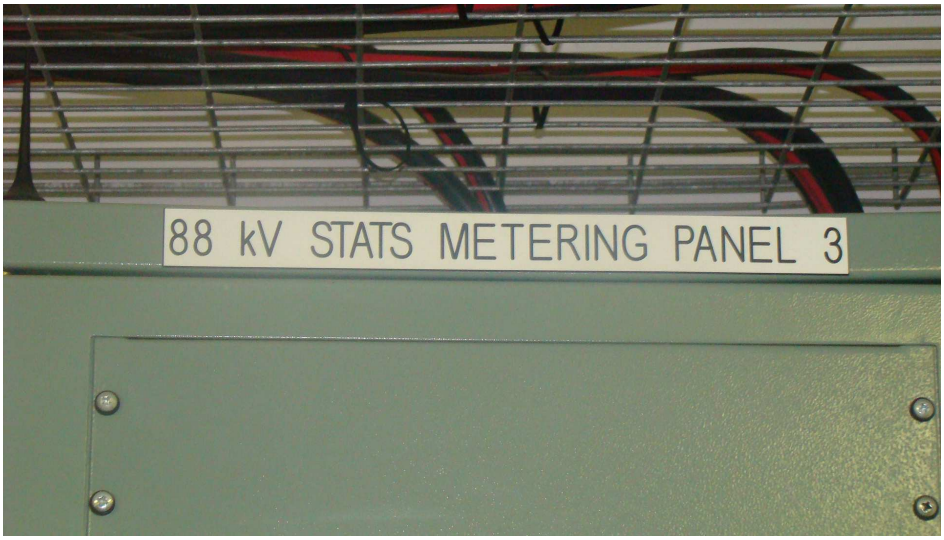

Figure 3: An example of a metering panel

Size: *400x36mm in a sliding holder of 400mm length, character size 20mm.*

Please label all the feeders with their fdr names e.g.:

ODINBURG 11kV FDR,
SHIBAMBO 11kV FDR,
TRFR 1 11kV,
TRFR 2 11kV.

Figure 4: An example of how to label meters.

Please add CT and VT test block labels:
MAIN: The size - *100x15mm and character size 8mm*
CHECK: The size - *100x15mm and character size 8mm*
CT TB: The size - *100x15mm and character size 8mm*
VT TB: The size - *100x15mm and character size 8mm*

Also trfr ratios:
CT RATIO: 800/1 , the size is *100x15mm and character size 8mm*
VT RATIO: 11000/110V , the size is *100x15mm and character size 8mm*

If the meters have CT and VT ratios, then only one label is required per panel for CT and VT ratios.

Figure 5: An example showing how to label test blocks

C. IDF FRAME

The following labels will be added on the IDF frame.

- **IDF FRAME** *size 400x36mm with character size 20mm*
- **A** or **VERTICAL A** *Engraved label – 60mm x 60mm*
- **B** or **VERTICAL B** *Engraved label – 60mm x 60mm*

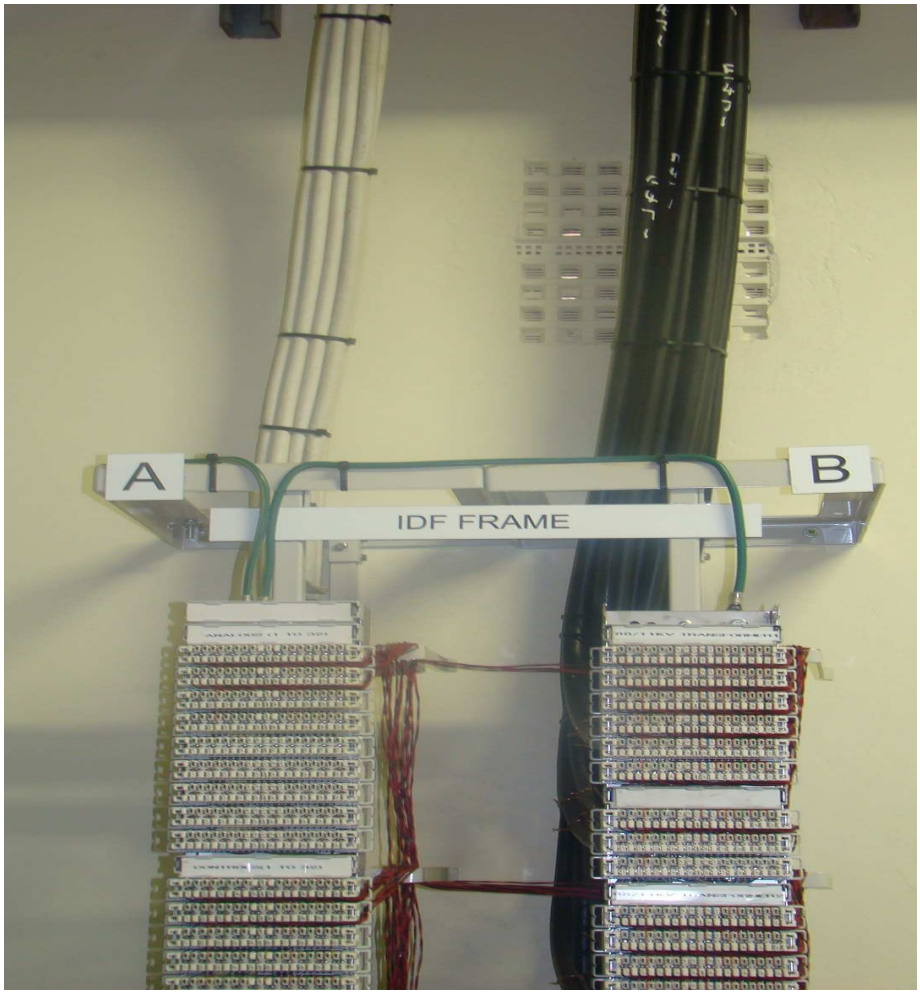

Figure 6a: IDF FRAME LABELLING

Each Kronos where the jumpering is done should also be labelled accordingly. If it's for a feeder, it must be labelled with the feeder name and if it's for a transformer, it must be labelled with the transformer name.

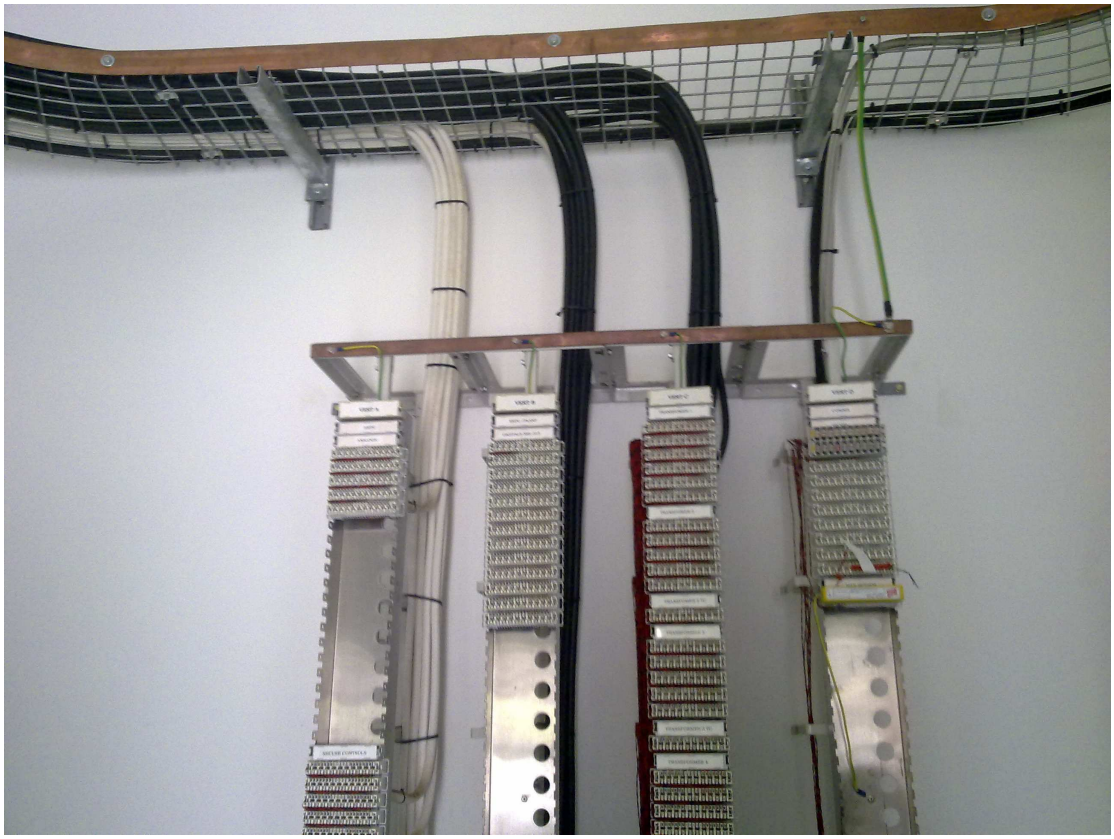

Figure 6b: Example of how to earth the IDF Rack

D. AC/DC Distribution Board OR AC/DC PANEL

AC/DC DISTRIBUTION BOARD - *400x36mm with character size 20mm or*
AC/DC PANEL - *400x36mm with character size 20mm*

If there is a CORDEX Charger fitted in the panel it should be labelled e.g. **110 V DC CHARGER / 50 V DC CHARGER** accordingly.

Also the following labels on the AC/DC Panels must be added:

- **AC CIRCUIT**
- **DC CIRCUIT**
- **MCB Load circuits label legends (i.e. engraved black lettering on the white background/board)**

E. RTU Cabinet:

Please mention the name of the installed RTU in the label:
e.g. **D20 RTU CABINET** size: *400x36mm with character size 20mm*

Note: All the cables from the IDF to the RTU should be labelled according to spec and also those into the IDF (i.e. engraved anodized aluminium labels).

Figure 7: D20 RTU Cabinet

F. BME CABINET

BME CABINET Label should be *400x36mm with character size 20mm*

Figure 8: BME CABINET labelling

G. CABLE MARKERS

Anodised aluminium labels with thickness of 1.2mm may be used. The standard size of these labels for Protection, DC and Metering should be 50mmx15mm and a character size of 8mm.For outdoor Supervisory cables a label with sizes 40mmx10mm and a character size of 6mm can be used. To

tie cable markers to the cable, each label should have four corner holes drilled with a 3mm drill. The holes needs to be countersinked should be filled with black duco to ensure visibility. Cable trunking to be closed properly when work is done and cable neatly tucked inside the trunkings.

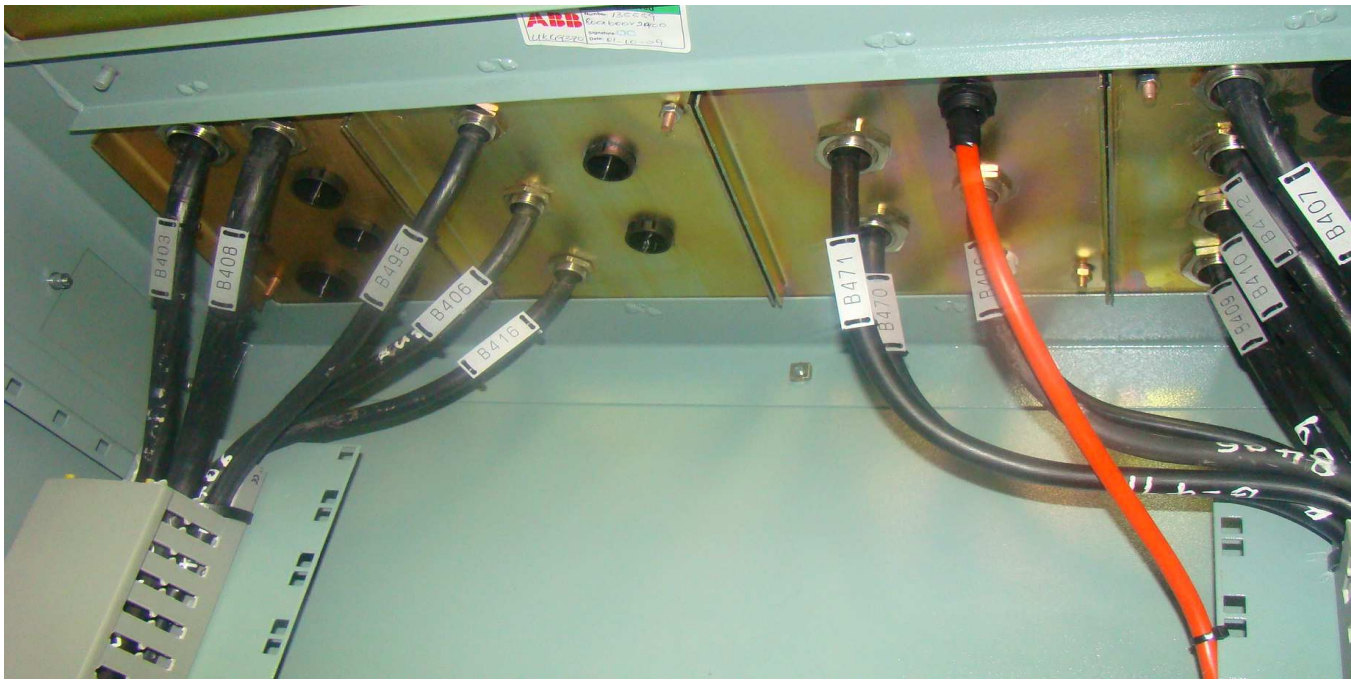

Figure 9: First example of cable labels

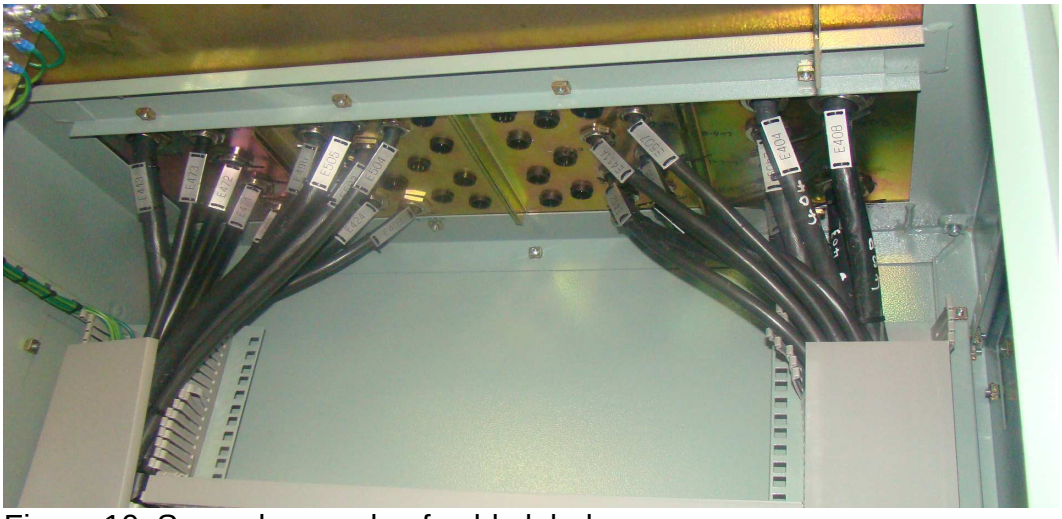

Figure 10: Second example of cable labels

H. LAYOUT OF CABLES

Cables are to be neatly layed out, harnessed properly and avoid “spider webs”.

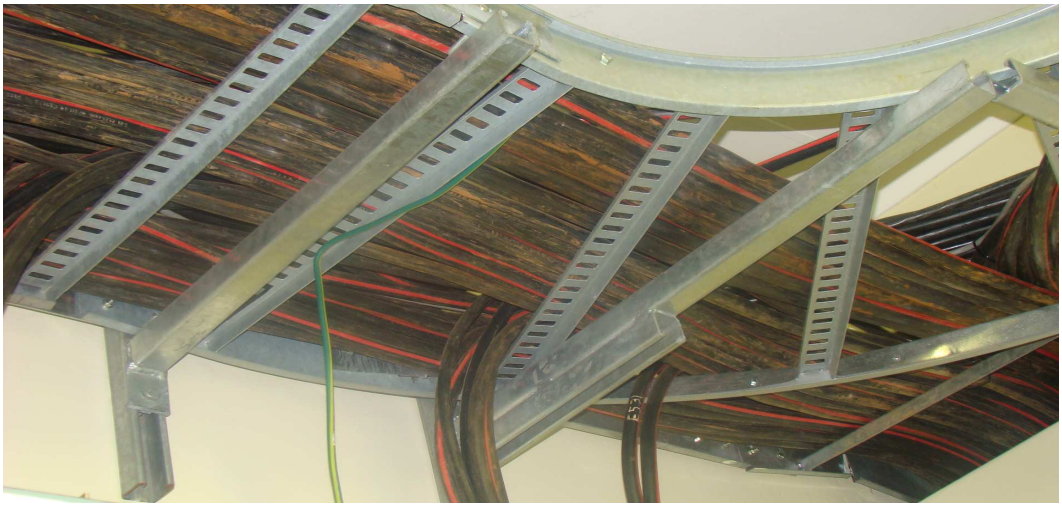

Figure 11: Layout of cables, acceptable.

Figure 12: Neatly laid out cables at Leloko S/S. Acceptable!!!

Figure 13: Poorly laid cables, can do better than this…!!!

I. OUTDOOR LABELS

Figure 14: Example of a VT JB label

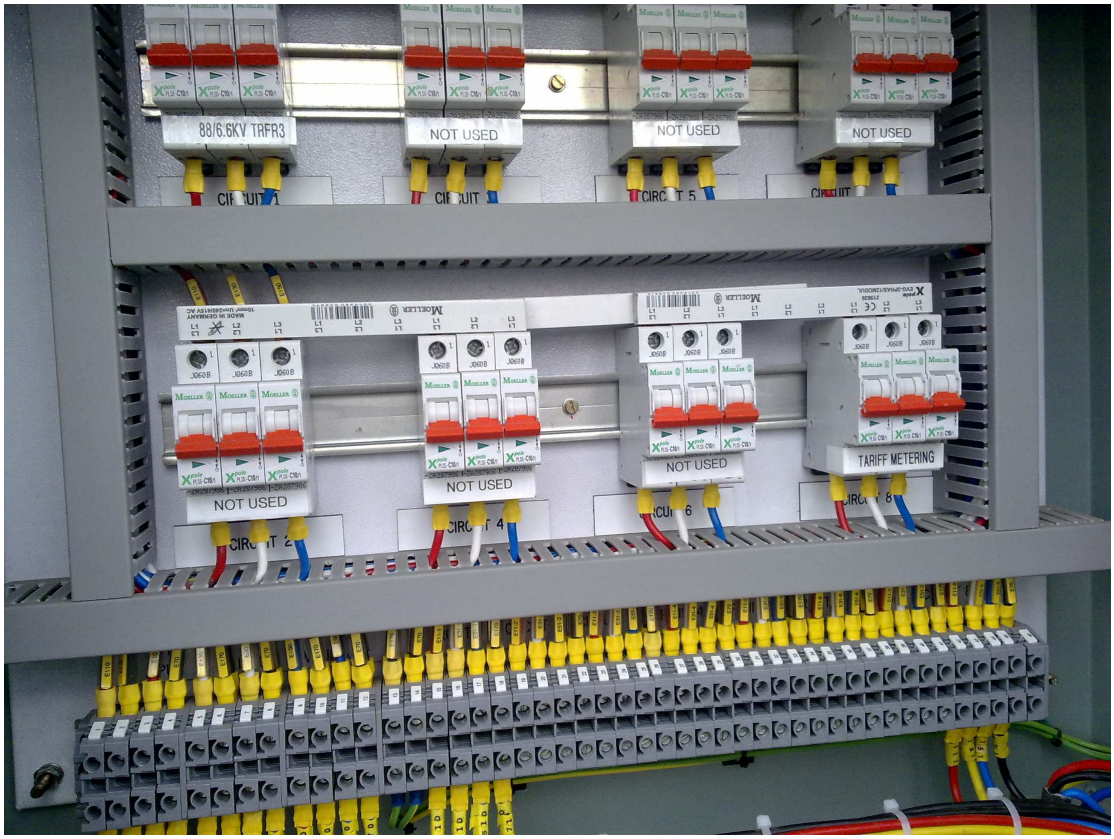

Figure 15: Example of VT JB MCB's label

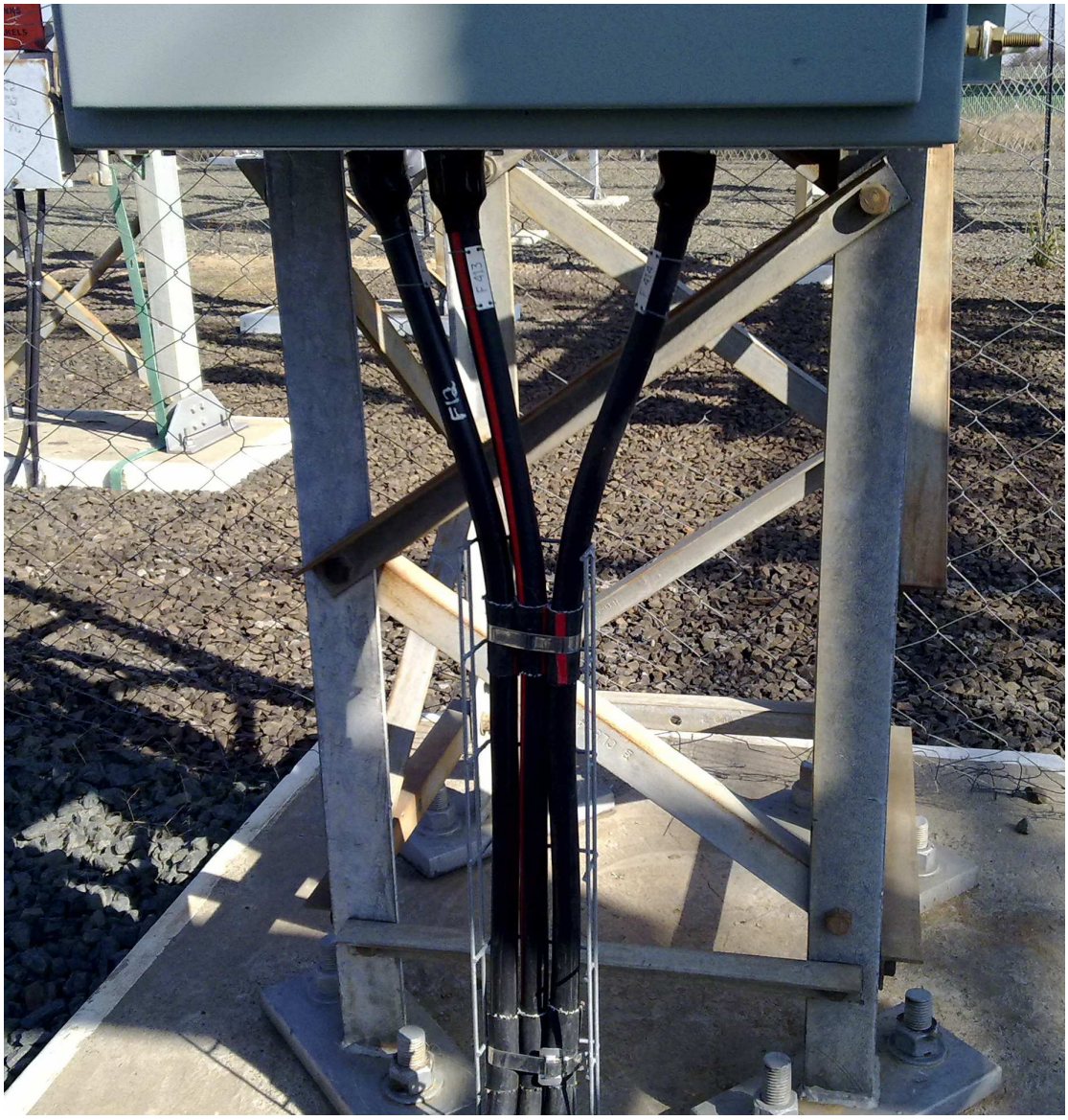

Figure 16: Example of Cabling to the JB (NB: Cable support is mandatory)