ASP Safety Alert

Compliance and Practices

Alert Number: SA14_18

Subject: Risk of electric shock when working near LV HDPE Cables

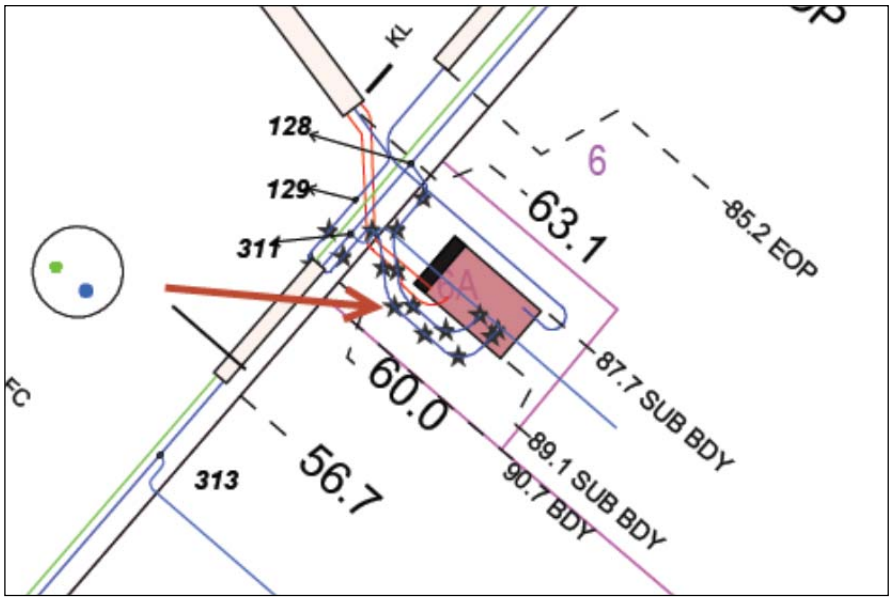
2 October 2018

A recent incident on Ausgrid's network has prompted Ausgrid to remind ASPs of the safety precautions when working on or near low voltage stranded aluminium cable on Ausgrid's network.

Existing cables have been identified that are susceptible to deterioration and can pose a risk of electric shock when working in close proximity, particularly in damp ground. This applies to low voltage single core, stranded aluminium conductor (AL1), high density polyethylene insulated (XQ or Q), PVC sheathed cables (Z) that were installed prior to 1985 e.g. 300AL1 XQZ.

These cables can often be physically identified in the field by having white powder extruding from the terminations and/or swelling of the cable sheath at locations along the cable length as well as deterioration of the PVC sheath and subsequent cracking of the HDPE insulation leading to possible current leakage.

ASP3 designs and DBYD plans show these types of cables, as per below symbology (LV Cable with stars placed over, covering the sections containing HDPE). Identifying these cable types prior to works commencing is essential to planning the job safely and efficiently.



Cable codes affected are:

2100	2141	5038	5041	5079	5144
2101	2176	5039	5042	5130	5154
2140	5037	5040	5069	5138	5050

Due to the electric shock risk, when working on or near (ie. in the same trench) cables of the above-mentioned types should wherever reasonable, be de-energised for the duration of the work.

The following precautionary measures must be followed when:

1. it is not reasonable to de-energise the cables.
2. until such time de-energised cables have been proven de-energised.

Precautionary Measures:

- Wear an insulating glove with an approved leather outer glove on each hand

- If the trench is damp, wear good condition gumboots of an approved type (e.g. Blundstone Type 014) on each foot as an additional precaution. Gumboots must be visually inspected before use. Particular attention must be paid to the sole and other surfaces of the gumboot during the visual inspection for possible nail punctures, abrasions etc.

Note: The above precautionary measures also apply when excavating and/or removing the cable protection covers from energised or de-energised cables of the above-mentioned types.

Electrically unprotected parts of the body must not come in contact with the above mentioned energised cables or surrounding damp soil i.e. do not kneel in damp trenches containing such cables.

The work environment shall be continuously assessed. During the course of works if additional PPE and/or precautions are required (such as the use of gumboots, safety glasses and/or insulating covers) work shall cease until they are implemented.

ASPs are reminded to follow precautions when working on or near these types of cables.

Further information on the specific hazard and work requirements are contained in previous Safety Alert SA06_15 “Low voltage aluminium stranded cables” and NUS199 *“Safe Electrical Working on Low Voltage Assets”*, Section 8 “Low Voltage Aluminium Single Core Cables”.

If you are unsure of the cable or have any further questions please contact the Ausgrid Compliance Officer facilitating the project.

Ausgrid

Project Officers