

# ASP Safety Alert

## ASP Compliance and Practices



**Alert Number: SA08\_17 v3**

**Subject: Reminder – hazards when working around live UG aluminium cables**

22 August 2017

### Key Messages

**REMINDER: Underground aluminium cables may have deteriorated insulation and can cause an electric shock hazard**

Ausgrid wants to remind ASPs of the hazards associated with working around live underground aluminium cables. In particular the hazards relate 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.

An ASP received an electric shock when undertaking work around a HDPE cable while not taking the appropriate precautions. This incident could have been prevented if the precautions had been taken.

The incident occurred whilst completing hand excavation around an existing live underground low voltage cable, an ASP1 worker received an electric shock to his right hand. There were no injuries to the individual and was taken to hospital to undergo an ECG and was cleared shortly after.

The investigation found that the workers were working on or near low voltage High Density Polyethylene (HDPE) cable, which was identified on Dial Before You Dig (DBYD) plans. HDPE has an electric shock hazard due to the cable sheath (insulation) deteriorating. The individuals should have taken precautions and worn personal protective equipment.

Ausgrid's network standards below outline the identification, hazards and safety precautions when working near underground aluminium cables:

- *NS199 Safe electrical work on low voltage underground assets*, section 7, outlines how to identify aluminium cables, associated hazards (e.g. cable swelling) and precautionary measures such as a LV insulating glove on each hand with approved leather outers. Also if the trench is damp, wear an approved gum boot on each foot as an additional precaution
- *NS165 Safety requirements for non-electrical work in and around live substations*, clause 6.2.4, states the gumboots must comply with AS/NZ 2210 and be stamped with the symbol 'I' (non-conductive). [We will also accept gumboots stamped with EH \(electrical hazard\) as per American Society of Testing Materials \(ASTM\) F 2413 Standard Specification for Performance Requirements for Protective \(Safety\) Toe Cap Footwear.](#)

We have previously published the following safety alerts:

- *SA06\_15 Low voltage aluminium stranded cables*, published on 19 May 2015, which outlined the identification, associated hazards and precautionary measures when working with aluminium cables
- *SA03\_17 Proposed changes to symbology for LV HDPE cables*, published on 29 March 2017, which outlined new symbols on DBYD plans to indicate the presence of HDPE cables

Follow the link below to Ausgrid's website to access the above documents:

<http://www.ausgrid.com.au/Common/Industry/Accredited-service-providers/Alerts-and-Notices.aspx>.

**Ausgrid Project Officers**