

# ASP General Information

## Electrical Safety & Compliance

**Alert Number: GI02\_21**

**9 February 2021**

**Subject: Substation Cable Termination Issues & Defects**

### Overview

Investigations on recently installed distribution assets where bushing failures have occurred have exhibited that, in most cases, the cause has been related to the mechanical stress applied on Low Voltage & High Voltage cable terminations.

There is evidence that suggest that in some cases the incorrect torque has been applied to the bolted connections during installation. In other cases, it has been found that the associated cable has not been adequately supported.

ASPs reminded to be aware of this and take preventative steps by correctly following manufacturer installation guidelines and practice good workmanship.



Cracked 11kV Switchgear Bushing - Lucy VRN6a

Stressed and cracked bushings on Distribution Switchgear and Transformers result in oil and SF6 gas leaks. Not only does this incur maintenance costs while substantially reducing the life of the asset, there can also be significant environmental impact due to leakage.



Disturbed LV Bushing Gasket - Schneider 100kVA Tx

## **Installation Guidelines**

The respective asset manufacturer installation guidelines and manuals clearly illustrate the minimum requirements for the cable installation and specify the correct steps for cable termination. It is critical to utilise the specified size bolts and correct technique to avoid cross threading.

Correct tools for terminations must be utilised with a correct torque setting for cable bushing terminations. The consequence of not adhering to the correct torque setting potentially applies an unknown stress on the terminations which could result in bushing seal dislodging or a loose connection.

As part of the installation ensure all cables are laid and supported in such a way there is no stress on equipment bushings and cable cleats and glands are utilised.

Manufacturer installation guidelines are supplied with kiosks or can be sourced directly from Manufacturer websites.

Note: As per Ausgrid's Network Standard 100 *Field Recording of Network Assets*, and as part of the field recording procedures, photographs are required to be taken of Low Voltage & High Voltage cable terminations and or supports to record that the correct termination procedure has been followed.

## **Ausgrid**

### **Network Compliance & Authorisations**