

TECHNICAL BULLETIN

TB-0152

Insulation on 400/230V AC wiring within transmission and zone substations

Background

A number of older substations have been identified by the Electrical Design section as having green and/or green/yellow insulation on AC wiring within the substation AC panel. An example is shown in Annexure A.

Endeavour Energy standard, ETS 0014 (Protection and control panels) requires all 400/230V wiring insulation to be red (or brown) for active and black (or light blue) for neutral. The use of green/yellow combination coloured insulation within protection and control panels is restricted to earthing conductors.

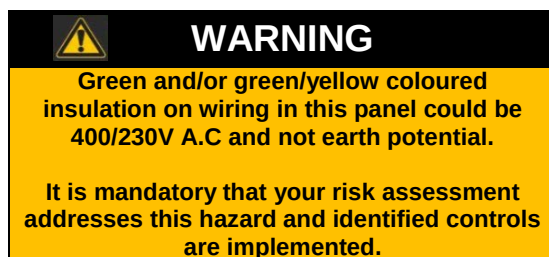
Actions

Consideration was given towards replacing all AC wiring that has green and/or green/yellow insulation, however it was determined that this action would be very complex and time consuming. In addition, this work could potentially create a greater risk to individuals, as some of the unsuitable wiring may be missed, thus creating a greater risk to individuals who may assume that all green and/or green/yellow wiring is at earthed potential and therefore safe.

After consultation with the Manager Electrical Safety & Authorisations branch, Regional Transmission managers and the Electrical Design section, it was determined that an inspection of all transmission and zone substations, and switching stations shall be carried out by regional staff as a part of the substation maintenance inspection. When sites are identified with green and/or green/yellow insulation on any AC wiring, hazardous warning labels shall be fitted immediately.

The labels shall be fitted in a position that it is both prominent and legible under all likely viewing conditions, and in close proximity to the incorrectly coloured AC wiring at both the source and load end.

Labels shall read:



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Annexure A: Photographs show a substation AC panel where green and green/yellow insulation is used on AC wiring.

