

MYTHS AND ILLUSIONS NO. 3

CAN YOU EXPLAIN THE LOGIC OR SCIENCE SUPPORTING THIS PRACTICE? €10,000 IF YOU CAN.

It is accepted worldwide that it is not the amount of voltage, but the amount of current, that poses a threat to human life. For example; an electric fence may have up to 9,000 volts but, will not kill a human or an animal because its current is limited to less than 5 milliamps. On the other hand, voltages of less than 120 volts have caused electrocution when current levels exceed 300milliamps. Once dangerous current levels are reached, it doesn't matter whether the voltage is 120 volts or 120,000 volts.

To provide worker protection, a safety device must take the full fault current and remain intact until the breaker trips. (Safety Standard IS EN 61230: 2008) Safety procedures in Ireland are based on the notion that 25sq mm copper conductor will protect a worker from the danger of 36,000 Amp. fault current, but **it takes 95 sq. mm conductor** to protect from the danger of 6,675 Amp. fault current. This practice contradicts all known electrical science and is not practiced anywhere in the world, except for Ireland.

The fault current from a 500 Mva, 400kV output, 10.8% impedance, transformer is **6,675 Amps. Approx.** (The largest HV transformer currently in use in Ireland).
Note: We use 95sq mm conductor for protection from this threat.

The fault current from a 1 Mva, 400V output, 4% impedance, transformer is **36,000 Amps. Approx.** (The largest LV transformer currently in use in Ireland).
Note: We use 25sq mm conductor for protection from this much greater threat.

In line with the rest of the world, Tynagh Networks is of the view that this safety procedure cannot protect workers on LV networks in Ireland.

If you think we are wrong and can prove it, you have earned yourself or your nominated charity €10,000. In addition, the same offer applies to anybody who can prove that 25sq mm. copper conductor offers any worker protection whatsoever from the possible fault levels of Ireland's LV networks.

[Terms and conditions.](#)

Click here to view test results. ([Facts or Myths video](#))