# STEP POTENTIALS CAN BE DEADLY!

A step potential is when there is a difference in voltage between a person's feet when they are standing on the ground. The voltage may be as a result of an electrical fault, such as a downed powerline, which causes high currents to flow into the ground. Step potentials can be very dangerous for anyone standing in close proximity to the fault.

## HOW DO STEP POTENTIALS HAPPEN?

When a fault occurs, such as a downed powerline, a high fault current may flow into the ground resulting in a correspondingly high voltage. This voltage is highest at the point of fault and dissipates as the distance from the point of fault increase.

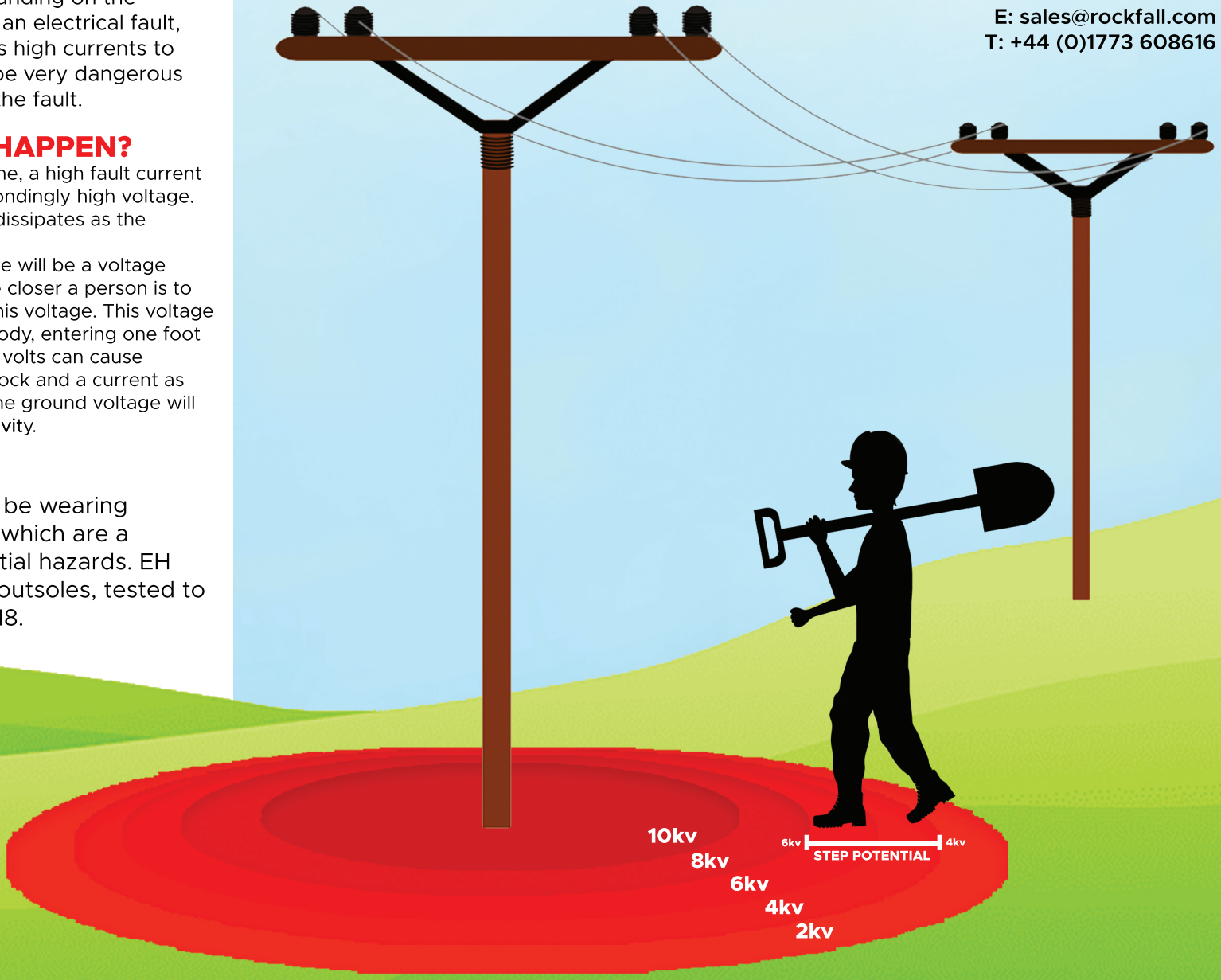
Should a person walk across the area, then there will be a voltage difference between one foot and the other. The closer a person is to the point of fault , the higher the difference in this voltage. This voltage difference causes current to flow through the body, entering one foot and exiting at the other. A voltage as low as 50 volts can cause sufficient current to flow to cause an electric shock and a current as low as 1/20 amp can result in cardiac arrest. The ground voltage will vary on a number of factors including soil resistivity.

## WHAT TO WEAR?

Workers in these environments should be wearing Electrical Hazard (EH) safety footwear which are a secondary defence against step potential hazards. EH safety footwear that have an insulting outsoles, tested to 18Kv in accordance with ASTM F 2413-18.

**18kV**

Disclaimer: This footwear is Electrical Hazard (EH) tested in accordance with the test method ASTM F2412-18. Protection deteriorates rapidly in damp and wet environments and with wear. EH footwear is intended as secondary source protection equipment.

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