CORRECT ELECTRICAL ISOLATION PROCEDURE

Start

Get permission from an authoritative figure, identify ALL sources of supply (primary, secondary, tertiary — PV, UPS, batteries, generators, EV chargers), complete your Risk Assessment and confirm whether a Permit to Work is required.

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Locate all secondary and tertiary supplies and lock off all secondary and tertiary supplies, fit padlocks, retain keys and fit warning notices.

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Inspect all test equipment per **PUWER** and **GS38.** Prove your voltage indicators, **NON-CONTACT** and **CONTACT** voltage indicators are working on a known live source/ proving unit before and after use. **MFTs** must **NOT** be used to prove dead.

→ **EQUIPMENT DAMAGED** → **STOP WORK**

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Use a contact voltage indicator on the main incoming head to check for tracking.

→ **VOLTAGE PRESENT** → **STOP WORK AND CALL THE DNO ON 105**

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0V MEASURED

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Place a CT clamp ammeter on the main earth cable. Any reading above 15mA is potentially dangerous.

→ **>15 mA OF CURRENT PRESENT** →

Check for voltage with a non-contact voltage indicator on the main earth conductor. Check any metallic surfaces with a contact voltage indicator. If voltage is detected, Investigate the source whether internal or a network fault - alter your RAMS, you are now fault finding.

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Upon the main switch Opening:
- A slight reduction in current will be the properties earth leakage disappearing.
- If the current disappears drastically then this property likely has an INTERNAL FAULT driven by internal loading.
- If the current does not change then there is an external fault. Being driven by external loads.
- High Net currents - The 15 mA danger threshold comes from IEC/BS EN 60479-1 (effects of electric current on the human body).

THE CURRENT DISSAPEARS DRASTICALLY → The property likely has an internal fault driven by internal loading. You now need to discuss this with the client.

THE CURRENT DOES NOT CHANGE → There is an external fault being driven by external loads. Stop work and report and log your findings with with your CPS provider. → **STOP WORK AND CALL THE DNO ON 105**

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<15 mA OF CURRENT PRESENT

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Check for voltage with a non-contract voltage indicator on the main earth conductor.

→ **VOLTAGE PRESENT** Investigate the source whether internal or a network fault; alter your RAMS, you are now fault finding. →

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0V MEASURED
With the presence of DNC current alleviated or managed you can proceed to complete your original task.

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Locate the circuit for your original task. Isolate, fit padlocks, retain key and fit warning notices.
Test all conductors at the locked-off OCPD or isolated main switch in the correct order.

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For a single phase circuit/ equipment	For a 3- phase circuit/ equipment
N-L, E-L, N-E	N-L1, N-L2, N-L3, E-L1, E-L2, E-L3 L1-L2, L1-L3, L2-L3, N-E

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0V MEASURED

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Re-prove your test equipment on a known live source. System confirmed dead — safe to work.

→ **BEGIN WORK**

VOLTAGE PRESENT → Locate all secondary and tertiary supplies and lock off all secondary and tertiary supplies, fit padlocks, retain keys and fit warning notices.

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