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## **Live Working Document.**

- 1) Definition of “live working”.
- 2) Situations where working “live” is acceptable.
- 3) Situations where working “live” is unacceptable.
- 4) Risk Assessment.
- 5) Procedures to be implemented when working “live”.
- 6) Procedures for motor circuit testing “live & dead operations”.
- 7) Radio operations involving “live” testing.
- 8) “Lock off” facilities.

***Specialist Electrical Testers.***

## 1) Definition of “live working”.

Live working shall be defined as the practice of working on parts of the electrical system while the part in question is still live. This may or may not include the removal of covers or protective devices without isolating the means of supply during such an operation.

Live working may not be undertaken unless the following applies (as prescribed by “*The Electricity at Work Regulations*” regulation 14).

- a) *it is unreasonable in all circumstances for it to be dead; and*
- b) *it is reasonable in all circumstances for him to be at work on or near it while it is live; and*
- c) *Suitable precautions (including where necessary the provision of suitable protective equipment) are taken to prevent **injury**.*

## 2) Situations where working “live” is acceptable.

Due regard shall be taken of “*The Electricity at Work Regulations*”, particularly the following regulations: -

*Regulation 14; Work on or near live conductors.*

*Regulation 16; which covers the subject “Persons to be competent to prevent danger and injury.*

Live working may be undertaken only when adequate precautions are taken to prevent danger or injury to all persons, i.e.

- a) Persons carrying out work on live equipment shall be competent to do so safely.
- b) Live exposed parts shall not be left unattended at any time.
- d) Live work will only be carried out where there exists no risk of water ingress to live exposed parts.
- e) Live work may only be carried out where it is impracticable to isolate the supply.
- f) *Signs shall be fitted in all cases on circuits under test stating “Warning, circuit under test “Do Not Operate”.*

### 3) Situations where working “live” is unacceptable.

The following situations are **not** appropriate to be worked on live:

- a) Motor terminal covers must not be removed live.
- b) Panel covers must not be removed if adequate knowledge of that panel is not known.
- c) Covers shall not be removed in wet environments.
- g) *Live work must not be undertaken where by “risk assessment” danger or injury may occur to the engineer or others.*
- h) *Signs shall be fitted in all cases on circuits under test stating “Warning, circuit under test “Do Not Operate”.*

### 4) Risk Assessment.

Where unknown situations exist, a “Risk Assessment” must be undertaken and acted upon before proceeding with live testing.

### 5) Procedures to be implemented when working “live”.

All suitable precautions shall be taken to prevent “danger” arising.

- a) *All personnel not directly involved with the task in hand will be kept clear of the area at all times.*
- b) *Suitable barriers and warning signs shall be erected as and when appropriate.*
- c) *If any doubts regarding safety arise then work must be halted and the circuit made dead prior to any further progress being made.*
- d) *Precautions shall be taken to ensure that no nearby dead circuits become unexpectedly live.*
- e) The appointed site representative shall be kept fully informed of areas where live work is being undertaken.
- f) *Signs shall be fitted in all cases on circuits under test stating “Warning, circuit under test “Do Not Operate”.*

## **6) Procedures for motor circuit testing “live & dead operations”.**

Where motors are remote from their nearest point of isolation, the following shall apply: -

- a) *Before terminal covers are removed it shall be double-checked that the source of supply will not become inadvertently energised.*
- b) *Where lock off facilities are fitted, the testing engineer shall keep the only key on his person at all times.*
- c) *Where lock off facilities are not fitted then a second engineer shall be in attendance at the point of isolation at all times to prevent inadvertent re-energisation.*
- d) *Suitable warning signage shall be erected.*
- e) *Each sequence of events during testing shall be double-checked before proceeding.*
- f) *Where it is considered unsafe to remove a motor cover due to corrosion, water or chemical presence then the cover must not be removed, no test results may be obtained.*
- g) *Cover screw tightness and gasket seals will be checked upon completion.*
- h) *Signs shall be fitted in all cases on circuits under test stating “Warning, circuit under test “Do Not Operate”.*

## **7) Radio operations involving “live” testing.**

Hand held radios may be used to communicate between panel isolator positions and remote motors. Where radio communications are involved then the following precautions must be observed: -

- a) *Instructions and information provided by the transmitting engineer shall be repeated by the receiving engineer in order to confirm that the information transmitted has been fully and properly understood.*
- b) *Radio communication must not be relied upon where extraneous noise pollution could give rise to misunderstood information being acted upon.*
- c) *During radio communication, the two engineers involved must stay at their positions until all disconnected terminations and covers have been replaced securely.*
- d) *Signs shall be fitted in all cases on circuits under test stating “Warning, circuit under test “Do Not Operate”.*

**8) “Lock off” facilities.**

Where “lock off” facilities are present, they must be used to prevent danger of inadvertent re-energisation. In any event, precautions shall be taken to ensure that any circuit being worked on “dead” cannot be inadvertently re-energised.

Signed.....M. Lancaster Director responsible for Health & Safety.

Signed.....Name.....(Employee).

## Addendum 1. 25/03/2003

### Live Testing on Inaccessible Parts

When carrying out electrical testing on inaccessible parts of an installation under no circumstances will live testing be carried out where there may be danger to either the tester or others.

Where accessories, distribution boards, busbar chambers, isolators and motors etc are mounted in inaccessible situations where there is no room to retreat or fall back then under no circumstances will "live" testing be carried out. Dead testing may only be carried out when the electrical system is proven dead.

When testing within an electrical enclosure (distribution boards, busbars motors etc) where a slippage of the cover may short against terminals or there is a risk that connections could "spring free" the cover may only be removed when the electrical supply is made and proven dead.

Where live testing is carried out from a ladder or pair of steps and there is a risk of electrocution or fall then the item under test will be made dead before applying the test instrument. If this is not practicable then live testing will be carried out at the nearest point of isolation with this figure added to an R1 + R2 test carried out from the point of isolation to the end of the circuit.

If an R1 + R2 test is not practicable an earth continuity test can be carried out between the isolator and the end of the circuit. A comment "Unable to carry out live tests - end of circuit inaccessible, figure entered is the earth loop reading at the nearest point of isolation, earth continuity tested between point of isolation and end of circuit – satisfactory" will be entered under a category 5.

If none of the above can be carried out in a safe manner the drop down auto visual fault "Unable to carry out live tests - end of circuit inaccessible. Requires access to be made available and further investigation" will be entered under a category 3 fault.

Signed.....M. Lancaster Director responsible for Health & Safety.

Signed.....Name.....(Employee).