

SAFETY AND HYGIENE REGULATIONS



Servei de Prevenció de Riscos Laborals
UNIVERSITAT POLITÈCNICA DE CATALUNYA

ELECTRICAL WORK – manoeuvres, measurements, tests and verifications

CODE

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IN ACCORDANCE WITH ROYAL DECREE 614/2001, ON THE MINIMUM PROVISIONS FOR PROTECTING THE HEALTH AND SAFETY OF WORKERS FROM ELECTRICAL RISKS – APPENDIX IV

DEFINITIONS:

Manoeuvre: an action designed to change the electrical state of an installation that does not entail assembling or disassembling any components.

Measurements, tests and verifications: activities designed to check compliance with the specifications or technical and safety conditions required for the proper operation of an electrical installation, including activities aimed at checking its electrical, mechanical or thermal state, as well as the effectiveness of protection devices, safety circuits and switching circuits, among others.



A. GENERAL PROVISIONS

1. Local manoeuvres and measurements, tests and verifications can only be carried out by authorised workers. If measurements, tests and verifications are undertaken in high voltage installations, the workers must be qualified and could be assisted by authorised workers under their supervision and control.

2. The work method and the work and protection equipment and materials that are used must protect workers from risks of electric shock, electric arc, explosion or flying materials.

The aforementioned protection equipment and materials include the following:

- Insulated accessories (screens, covers, sheaths, etc.) to cover live parts and ground connections.
- Insulated or insulating equipment (tools, pliers, test probes, etc.).
- Hot sticks.
- Insulated or insulating devices (footstools, mats, working platforms, etc.).
- Personal protection equipment (screens, gloves, goggles, helmets, etc.).



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3. For the purposes set out in the previous section, the work and protection equipment and materials used to carry out these operations must be selected from those designed for this purpose, taking into account the characteristics of the task and, in particular, the operating voltage. They must be used, maintained and inspected according to the manufacturer's instructions. In all cases, the equipment and materials for these operations must meet the relevant specific regulations.

4. Workers must have a solid, stable base that enables them to keep their hands free, and suitable lighting so that they can work with good visibility.

5. The work area must be indicated and/or demarcated correctly if there is the possibility that other workers or people could enter the area and come into contact with live elements.

6. When working outdoors, unfavourable weather conditions must be taken into account in the preventive measures, to ensure that workers are protected at all times.



B. SPECIFIC PROVISIONS

The specific provisions established below for certain kinds of activities are considered complementary to those indicated in the previous part of this appendix, except when they explicitly modify the above provisions.

1. Local manoeuvres with switches or isolation switches:

1a The work method used must consider faults that are reasonably likely in the apparatus and the possibility of wrong manoeuvres (isolation switches in open position under voltage, or in closed position in a short-circuit).



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2a For protection against the risks of electric arcs, explosion or flying materials, it is not compulsory to use protection equipment when the place where the manoeuvre is executed is completely protected from these risks due to distance or the positioning of obstacles.

2. In measurements, trials and verifications:

1a When a grounding device installed during operations for switching off power in the installation needs to be removed, all necessary precautions must be taken to prevent the risk of accidental reconnection.

2a When an external power source needs to be used, all precautions must be taken to ensure that:

- a) The installation cannot be restarted using a power source other than the one foreseen.
- b) Sectioning points have sufficient insulation to withstand the simultaneous application of the test voltage and the operating voltage.
- c) Preventive measures taken against electrical, short-circuit or electrical arc risks must be suitable for the level of voltage used.

