

Electrical Safety Guidance for Lighting Cameramen

Individuals working with electricity in the Broadcast Media Industry have always been expected to work within the requirements of the Health and Safety Work etc Act 1974 and other associated legislation such as the Electricity at Work Act 1989 amongst others.

In 2008, both the British Standards (BS)7671 relating to Electrical Installations (IEE Wiring Regulations 17th Edition) and BS7909 relating to Temporary Electrical Systems in the Entertainment and Broadcast Industry were updated.

BS 7671 largely deals with permanent electrical installations however it does include two new sections on Exhibitions, Shows and Stands and Mobile and Transportable Vehicles. BS 7909 deals specifically with the setting-up and use of Temporary Electrical Systems in the Entertainment Industry.

Whilst many individuals will no doubt be operating to these standards already, they do have an affect on the provision and use of facilities, equipment and scenery that involve electricity and the Broadcast Industry will be working to these standards.

It should be noted that this is only a brief summary of some of the requirements. Full copies can be purchased from British Standards. If the reader needs further information, it is recommended that they seek assistance from someone competent to do so.

BS 7909 is divided into two key areas - up to 6kW and over 6kW.

For small /simple set-ups where up to 6 kW of electricity may be obtained from a 13, 15 or 16 A supply for example, a small single camera shoot, a three light interview kit etc.

- Only competent and experienced personnel must be used for example, an experienced lighting camera operator.
- If in any doubt, consider engaging an experienced lighting electrician or a gaffer, even on small setups, to rig equipment, cables, gels and assist with transport and handling.
- Recommended that in domestic premises, no more than 5kW is used due to possible presence of other electrical equipment.
- No individual light exceeds 2kW as depending on their age, can draw more current than their nominal rating.
- Must have and know how to use, polarity and earth loop impedance tester such as a Martindale EZ150 or similar to correctly test socket outlets.
- Must have and know how to use, a suitable 30mA RCD when plugging in electrical equipment.
- All portable electrical appliances must have evidence of an up-to-date PA test and be visually checked before each use.
- Where possible, use Class II insulated equipment to reduce the risk of electrical shock.
- Ensure someone competent always present when system is energised.

For large/complex set-ups where more than 6kW of power is supplied from one or more sources including generators.

- The person with overall control, eg, a producer, event manager, production manager etc, nominates a competent individual to act as the 'Senior Person

Responsible' (SPR) – normally a gaffer/chargehand or could be the OB Engineering Manager (EM).

- Such persons responsible should have suitable qualifications, technical knowledge and experience to competently take responsibility for the complexity of the work involved.
- If a gaffer/chargehand is being used, then their competence must be determined beforehand.
- SPR must ensure that all crew engaged in electrical work are competent for the task assigned.
- SPR must ensure that all equipment is 'fit for purpose'.
- SPR must provide a location specific risk assessment and where necessary, a method statement.
- SPR produce suitable sign-off certificates for temporary installation (NB, may need retesting and certifying if significant alterations, change of environment, damage or additional items added but at SPR's discretion).

Facilities eg, OB truck, make-up vehicle, catering, toilet block, portakabins etc:

- All such facilities with installed electrical systems must have a valid installation certificate, and then a periodic testing and inspection certificate issued by a competent electrician every two years and retained for inspection.
- There must also be evidence of a regular routine electrical check undertaken by a competent person every 12 months.
- The person responsible for the facilities eg, chef/driver, make-up artist etc, must have a basic knowledge and understanding of the electrical system.

Design and Instruction:

- SPR and/or Producer must take into account source of supply, design and selection of cables and equipment for event/production requirements with adequate over current and residual current protection, facilities and crewing.
- Occasionally, a specialist company maybe required to produce a suitable design.
- Ensure where practicable, all final circuits must be protected by a 30mA Residual Current Device (RCD)
- It is now a requirement that the installation of fixing wiring and electrical equipment to scenery must be carried out by a competent electrician following principles of 7671 and 7909 and ensuring equipment and wiring is mechanically protected where practicable.

Work on site:

- SPR to check all in place eg, cables tidy, RCD's present and functional, adequate earthing in place, warning signs, means of isolation identified, equipment protected for interference etc.

Inspection and Testing:

- SPR to ensure RCD's checked and tested
- SPR to ensure all portable equipment on site has evidence of an up-to-date PA test and have a through visual test before use.

Operational procedures:

- SPR to ensure someone competent always present when system is energised
- SPR to ensure regular visual checks undertaken
- RCD bypass only if suitable risk assessment produced