

With the exception of servicing and repair operations, the main area of risk is the potential to cause damage to electrical appliances and supply cables during the course of work, or by overloading interconnecting cables by connecting multiple high-wattage appliances, for example certain film lighting units.

A significant proportion of the Department’s electrical equipment is portable or transportable, and it is intended that any maintenance operations operate in accordance with the College’s [Policy and procedure for the maintenance of portable and transportable electrical equipment](#).

Work activity general risk assessment	GRA reference	Risk rating
GRA 1 Office work	1.2, 1.3	Both medium
GRA 2 Using location filming equipment	2.3, 2.6	Both medium
GRA 3 Television Studio operations	3.3, 3.12	Both medium
GRA4 Post production operations	4.3	Low
GRA 5 Construction, scene painting and installation	5.11	Low
GRA 6 Equipment installation, servicing and repair	6.4	Low
GRA8 Operations involving access equipment	8.4	Medium
GRA10 Filming around campus	10.3 and 10.6	Both medium

Example work tasks:

- Connecting portable appliances to the 13A mains supply, for example a laptop or data projector
- Connecting specialist lighting equipment to a 13A consumer supply on location, including use of power extension cables
- Connecting 16A industrial connectors to the dimmer panel in the TV Studio dimmer room
- Using power tools for installing art exhibits in Williams Practice Teaching Space or other areas
- Testing and replacing components inside computer cases, such as a fan unit or RAM card
- Replacement of electronic components inside pieces of production equipment

Physical environment:

- Production spaces and staff offices contain a significantly high proportion of electrical appliances requiring inspection for damage and, in certain situations, assessment of appropriate loading
- Mains supply sockets must be readily accessible so electrical equipment can be shut down and disconnected when not in use

- All electrical cables and connections must be organised to prevent accidental damage and consequent risk of electric shock hazard through cutting, tearing, wearing through cable insulation, or pulling conductors free from their connections
- Electrical equipment and cables must be kept away from exposure to rain, water and other conductive liquids and powders, including beverages, unless explicitly designed to be used in such environments by competent persons
- Access to high risk areas, such as the TV Studio Dimmer room and the lighting grid to be restricted to competent persons
- Locations used for recording work must be specifically risk assessed using the [Production Buddy](#) on-line risk assessment system, taking into consideration such factors as quality of the available power supply, cable management requirements, proximity to overhead power lines, exposure to wet conditions and any other significant factors. Specific control measures must be implemented in relation to the risk assessment and effectively communicated to cast, crew and others who may be affected by the work.
- Visitors must be prohibited from entering high risk areas, and any equipment they may use during their visit inspected by a competent staff member before it is used.
- The Department has no provision for technical staff to work on equipment that has exposed mains voltage components, any such repairs to be conducted by competent a suitably qualified electrician or electronics engineer, ideally off-site.

Sequence of tasks:

1. Any work activity involving electrical equipment must be planned to ensure competent people operate the equipment, that the equipment is properly inspected and maintained, that the equipment and available power supplies are of a compatible standard and rating, and that adequate time is scheduled to serve these requirements, including any operational training that is needed.
2. All portable appliances must be regularly PAT inspected by an appropriately qualified electrician (normally undertaken annually by an appointed contractor) and clearly labelled with the date tested in accordance with the College policy procedure on the maintenance of portable and transportable electrical appliances
3. All users of electrical equipment must check its condition before connecting to the mains, in particular the plug, cable insulation and enclosure, to ensure it is free from damage
4. Any defective equipment must be clearly labelled, locked away to prevent use and then reported to Media Arts Centre staff (for production equipment) or the Department Manager (for office equipment) to arrange for repair by an appropriately qualified person or disposal under the [College's Waste Management Plan](#) with specific reference to electrical and electronic equipment (WEEE)
5. Residual Current Devices (RCD) must be supplied and used for portable location film & television lighting kits and similar situations where operational risk of cable damage is higher than when working in low-risk environments
6. Equipment servicing that might involve removal of casing or exposed electrical conductors must only be undertaken by an appropriately qualified service contractor.
7. Certain activities, including all location recording work, will require specific risk assessment and appropriate control measures implemented.

8. Any incident that causes an electrical supply system or an item of equipment to be damaged should be reported using an incident report form in accordance with the [College Accident/incident reporting procedure](#). If the damage is such that it creates a risk of harm, the item or supply system should be taken out of use immediately, clearly marked as unsafe and, if possible, stored in a safe location.
9. Any accidents occurring while working with electrical supplies or equipment to be reported using the [College Accident/incident reporting procedure](#).

Supervision:

- Most television studio operations must be supervised by a suitable member of staff, normally the relevant course tutor or Studio Manager, unless a final year undergraduate, or a suitably experienced post-graduate student, is determined as being competent to supervise the particular activity out of hours, with appropriate risk assessment, consultation and briefing.
- Staff are responsible for ensuring electrical equipment used in class which belongs to the College, is handled safely and responsibly and is of an appropriate standard for the work.
- Any servicing or repair work involving exposure of electronic components (such as mains transformers and capacitors) and risk of electric shock through accidental contact must only be undertaken by appropriately trained and qualified persons

Written Instructions:

- [Location filming code of practice](#)
- [Using the Media Arts Centre post production facilities: health and safety guide](#)

Correct Equipment:

- All electrical equipment, including mains extensions, power supply adapters, fitted fuses, etc., must be of appropriate type and electrical rating for the task. The Location Store keeps a selection of 16A extension cables, with 13A jumper sets, to use with location lighting equipment in order to minimise the potential use of inadequate 13A extension blocks
- All electrical equipment must be in good repair before connecting to the mains supply. Any broken (even if the unit is still working) or defective equipment must be withdrawn from service and replaced or repaired by a suitably qualified person or agent.
- Any test equipment must be appropriate to the task and operated by a competent person in accordance with the manufacturer's instructions.

Training:

After training, the staff member or student must be able to demonstrate:

- an awareness that contact with consumer mains electricity supply in the UK is potentially lethal
- the ability to identify the appropriate electrical current rating for any set of portable appliance and interconnecting devices in order to prevent electrical overload

- the ability to arrange consumer flex cables in a safe manner
- the ability to identify and report any damage that may render equipment, interconnecting devices or supply systems as being unsafe
- the ability to test and connect a 13A plug-in type Residual Current Device (RCD)

All students who are likely to do location filming involving specialist portable lighting equipment must do a brief safety training course (normally the Media Arts Centre's Lighting, Electrical and Grips workshop) prior to borrowing and using the equipment. Any staff using the studio lighting dimmer rack and grid installations must be trained in normal operating techniques by a competent person.

Other measures

- All location recording work involving mains-powered electrical equipment and any work activities not covered above must be specifically risk-assessed and proper control measures devised before allowing the work to proceed.

Reference material

- [The maintenance of portable and transportable electrical equipment](#)
- HSE leaflet 'Electrical Safety and You' (<http://www.hse.gov.uk/pubns/indg231.pdf>)
- HSE leaflet 'Electrical Safety for Entertainers' (<http://www.hse.gov.uk/pubns/indg247.pdf>)
- HSE leaflet 'Safety in electrical testing: servicing and repair of audio, TV and computer equipment' (<http://www.hse.gov.uk/pubns/eis36.pdf>)
- HSE leaflet 'Maintaining portable electrical equipment in offices and other low risk environments' (<http://www.hse.gov.uk/pubns/indg236.pdf>)

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