Electrical safety on youth work programmes

Guidance

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Electricity and the use of electrical equipment presents a significant risk on youth work programmes due to the potentially high severity of consequence which may result from poor practice. Electricity can cause death, serious burns, injuries resulting from falls, fire and damage to eyes through intense ultraviolet radiation caused by electrical arcing. However, for the majority of youth work activity the risks can be effectively managed through recognised good practice which should be feasible and reasonably practicable to implement. Electrical hazards should be considered as part of a youth work organisation's risk assessment for most activities, although it is likely that some settings, programmes or appliances may need specific risk assessment in order to fully consider and mitigate the risks.

Safe electrical practice in the workplace is governed by the Electricity at Work Regulations 1989, which alongside the Health & Safety at Work Act 1974 requires employers to ensure the safety and health of their employees and also the public, if they are at risk from those work activities.

Information included in this guidance is not designed for youth work programmes where electrical work is included as a specific aspect of the programme (such as work experience) and is supervised or managed by competent electricians. Furthermore, this guidance does not cover electrical safety related to the wiring or electrical installation of a building that is managed by a competent person.

Key risks:

- Electrocution resulting in shock and deep, slow healing burns,
- Sudden muscular contraction which can lead to secondary injuries as a result of, for example, falling
- Fire causing burns and/or damage to property

Some common electrical safety considerations relevant to youth work:

- Adapting electrical items and using them for different purposes: This can result in a short circuit or overloading the system which can produce arcing or fire. Equipment should only be used for its intended purpose and to manufacturer guidelines.
- Use outdoors: Most electrical items are designed for indoor use only and should not be used outdoors where exposure to moisture in particular can cause faults. If outdoor use is required, products designed for this purpose should be used.
- Temporary structures or events: The provision of electrical power to temporary or semi-permanent structures such as campsites or marquees for events must be managed carefully with adequate supply which is able to cope with the electrical demand required, and with equipment designed for outdoor use only. Generators should be carefully sited with good ventilation to minimise the risk of carbon monoxide poisoning.
- Phone chargers: Cheap and readily available replacement chargers for phones or laptops etc are sometimes poorly manufactured and faults can lead to fire etc.
- Overloaded sockets: Plugging multiple devices into a single socket through the use of extension leads can lead to overheating. Only a single extension should be used per socket and extensions should never be 'daisy chained' together. Products with built-in electrical protection should be selected.
- High load appliances: Appliances such as water boilers can draw more power and increase the potential of fire risk. These should only be used on circuits with sufficient power and protection to support the appliance.

- Secondary hazards e.g. trip hazards from extension cables: Care should be taken to ensure cables do not obstruct walkways and should be carefully taped down or otherwise secured in place.
- Incorrect use of extension cables: Drum cables should be unravelled if used for any period of time as heat can build up significantly in the coiled cable.
- Faulty or damaged items: Any visibly damaged sockets, poorly wired plugs, or equipment with loose wires/cabling should not be used. These items should be discarded so they are not inadvertently used by others.
- Electrical tools: The use of power tools represents a higher risk activity and should be managed in compliance with PUWER regulations.
- Water: Appliances should be kept dry and away from water sources. If water or other fluids are accidentally spilled, appliances should be immediately switched off and disconnected from a power source, and not be used again until confident that both the appliance and power source are completely dry.
- Repairs. Electrical appliances should only be repaired in accordance with the manufacturer's guidelines.

Good practice and control measures

1. PAT Testing

A PAT (Portable Appliance Test) test is a routine inspection of electrical equipment to help ensure that it is safe for use. PAT testing is not a legal requirement in itself, however UK legislation states that employers have a responsibility to maintain electrical and other equipment in a safe condition and have a legal responsibility to protect workers and others from harm. For electrical items, PAT testing is an effective way for organisations to meet their legal obligations.

Not all electrical equipment requires PAT testing, and it depends on the electrical 'class' , the 'category' of the item and the risk level of the workplace.

Class	Examples of appliances	Is PAT testing required?
Earthed equipment (Class 1) This equipment relies on effective earthing.	Kettles, toasters, laptop & phone chargers, fridges/freezers, washing machines/tumble dryers, microwaves, desktop computers, floor standing printers & copiers	Yes
Double insulated equipment (Class 2) This equipment (marked with ⧈) does not have nor need an earth connection to maintain safety	Desktop printers, televisions, DVD and CD players, hair dryers and straighteners, lamps, drills and other power tools	Maybe - dependent on the risk level of the work environment (see below)

Categories of electrical appliance	Description	Risk level	Is PAT testing required?
Fixed appliance	Equipment fixed in a permanent position and connected directly to a fused outlet and do not have a removable plug e.g. cookers, hand dryers, storage heaters	Low	No
Stationary appliance	I.e. fridges, washing machines, vending machines that have a plug so can be disconnected and moved but normally remain in the same place	Low	Yes, with the exception of Class 2 items when used in a low risk environment such as an office or similar setting.
Computers, network and other similar IT equipment	Office equipment such as computers, servers and printers	Low	
Moveable appliances	Equipment which sits in one place but can be moved easily e.g. televisions, lamps, fans, plug-in heaters etc	Lower-medium	
Portable appliances	Items which are designed to be moved whilst connected to an energy supply, i.e. laptops, projectors, vacuum cleaners,	Medium	
Cables & chargers	Extension cables and reels	Medium	
Handheld	E.g. hairdryers, straighteners and drills	Higher	

The tables above provide some examples of the types of equipment that should be considered for PAT testing. In general terms, lower risk items do not need to be tested. Class 1 items should be considered for testing and Class 2 items should be considered for testing depending on the risk level of the workplace.

The three main factors to take in to account when assessing the risk of the workplace are:

- The environment
- The type of equipment being used
- Who is using the equipment

The table below provides some general examples of workplace risk levels

Workplace environment	Risk level	Reasoning
Offices & similar work spaces	Low	Equipment is rarely moved and therefore less likely to be damaged. Usually does not include specialist equipment.
Schools and other youth centred facilities	Lower-medium	Equipment is rarely moved and does not usually include specialist equipment. However, risk is increased by the involvement of children.
Commercial and community spaces where equipment is used by members of the public	Medium-high	It can be harder to monitor use and therefore there is increased risk of misuse or human error.
Construction sites and other complex industrial settings	High	Dynamic and fast-paced environments which often involve specialist and/or handheld equipment

2. Electrical safety inspection

Where a youth sector organisation owns or manages a building or facility it is good practice to obtain an electrical inspection report via an inspection of the electrical installation of the building by a competent and registered NICEIC electrical engineer. It should be noted that buildings insurance providers may apply a requirement to have a regular inspection and a testing regime in place.

Organisations could consider requesting to see a copy of a provider's electrical inspection report before using venues or accommodation, or seek confirmation that this is in place and valid.

3. Staff or young people providing their own electrical items for use by a youth work organisation

Where a youth sector organisation owns or manages a building or facility it is good practice to obtain an electrical inspection report via an inspection of the electrical installation of the building by a competent and registered NICEIC electrical engineer. It should be noted that buildings insurance providers may apply a requirement to have a regular inspection and a testing regime in place.

Organisations could consider requesting to see a copy of a provider's electrical inspection report before using venues or accommodation, or seek confirmation that this is in place and valid.

4. Instruction, information, training and supervision

It is important that all workers are adequately and effectively provisioned with the necessary information, training and supervision that may be required for their role. As a minimum this should include understanding of any risk assessment in place and briefing regarding the relevant common electrical hazards and risk factors highlighted above. Workers should understand their role and responsibilities with respect to electrical safety and in particular any actions required to implement any identified control measures. Young people will require additional supervision with the use of some electrical equipment and this should be identified in the risk assessment.

5. When to get external or specialist advice

Youth work organisations should ensure that they consult with a specialist and competent advisors, such as registered electrician or electrical engineer, if:

- Using items outside of standard manufacturers' guidance
- Installing circuits to provision a temporary or semi-temporary structure
- Using a three phase supply, normally used in industrial or commercial settings as opposed to a single phase supply as per domestic and office style settings
- Any other situation that the youth work organisation's risk assessment highlights a requirement to do so

Dealing with an electrical incident

In the event of an electrical fire or suspected shock, disconnect the power by pulling the plug out or by switching off the power at the fuse box, if it's safe to do so.

Ensure everyone retreats to a safe space and call 999. Do not attempt to put out a fire unless it is very small and do not take any risks with your safety or that of the group. Do not use water on an electrical fire and only use a fire extinguisher designed for electrical fires such as carbon dioxide, powder or foam.

Electrical safety during a power cut

If experiencing a power cut, workers should:

- Contact the electricity board to report the outage
- stay away from broken lines or damaged poles and brief young people to do as such
- if using a generator or gas heater, be careful where they are sited and ensure adequate ventilation to minimise the risk of carbon monoxide poisoning
- turn off electric cookers, ovens, and other appliances if electricity is lost
- leave a light switched on to indicate when power has been restored
- take care and dynamically assess the risk of using candles, oil lamps or other naked flames