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Electrical Safety Policy

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1.0 Introduction

The School Partnership Trust Academies (SPTA) is ultimately responsible to ensure the health, safety and welfare of its employees, students and all other individuals in relation to electrical systems within its buildings.

Each Academy is delegated responsibility by the SPTA for the management of all electrical systems within the buildings and for implementing this policy and associated procedures, and safe systems of work which detail the responsibilities for users and managers within the Academy.

This Electrical Safety Policy sets out SPTA's strategies for compliance of all relevant Health and Safety legislation and also details what steps will be taken by each Academy to ensure that the risk from Electrical Systems within SPTA owned or controlled buildings is adequately managed, so that as far as reasonably practicable no one can come to any harm.

The policy details the responsibilities of the SPTA and its employees, contractors and regular building users. The policy and procedures require the co-operation of all employees, all staff, building users and contractors who also have responsibilities to ensure a safe and healthy working environment is maintained at all times. All procedures outlined below are mandatory for all parties involved.

The SPTA is the owner and / or occupier of SPTA premises. In the case of leased premises, in some instances, the SPTA is responsible for the maintenance of the building and, in others, the landlord.
In leased premises the responsibility is split between landlord and tenant. This split is influenced by the responsibility for providing the maintenance of the building.

SPTA are responsible for the estates management of premises, other than those sites where the lease stipulates that the landlord has responsibility for electrical safety.

Academies will request evidence of electrical testing from property landlords to ensure relevant electrical testing and remedial works are undertaken in line with regulatory requirements.

2.0 Policy Statement

School Partnership Trust Academies is committed to the safe operation and maintenance of its electrical systems. In order to do this it will, monitor this policy, ensure its effectiveness, and ensure all electrical systems are managed without giving rise to danger.

This Electrical Safety Policy has been written for the protection of those persons, whose employment involves them in using or carrying out work on SPTA electrical systems and equipment and any other person who may be affected by the activities of SPTA.
This policy is in accordance with the requirement of:

- The Health and Safety at Work etc. Act 1974;
- The Electricity at Work Regulations 1989;
- Electricity Supply Regulations 1988;
- Reporting of Incidents, Disease & Dangerous Occurrences Regulations 2013;
- Workplace (Health, Safety and Welfare) Regulations 1992;
- BS7671-2008 17th Ed IEE Wiring Regulations (including amendments).

It is the duty of all persons who may be concerned with the operation of, or work upon, the electrical systems and equipment of SPTA to:

- Comply with this Safety Policy and;
- Be thoroughly conversant with all legislation governing the work they may be called upon to undertake.

No employee will work on any electrical Low Voltage (LV) systems (50v - 1000v ac.) unless authorised or instructed to do so by an authorised or competent person. Only employees with the appropriate knowledge, skills and training will be authorised or instructed to work on LV electrical systems.

Where appropriate safety training and instruction will be given together with the provision of safety devices, equipment and instruments to carry out the work in a safe and proper manner.

3.0 Legislation

The Health and Safety at Work etc. Act 1974;
The Electricity at Work Regulations 1989;
Electricity Supply Regulations 1988;
Reporting of Incidents, Disease & Dangerous Occurrences Regulations 2013;
Workplace (Health, Safety and Welfare) Regulations 1992;
BS7671-2008 17th Ed IEE Wiring Regulations (including amendments).

4.0 Procedures / Guidance

4.1 Definitions

a) Charged

Means that the item has acquired a charge either because it is live or because it has become charged by other means such as by static or induction charging, or has retained or regained a charge due to capacitance effects, even though it may be disconnected from the rest of the system.

b) Circuit Conductor

Means any conductor in a system which is intended to carry electric current in normal conditions, or to be energised in normal conditions, and includes a combined neutral and earth conductor, but does not include a conductor provided solely to perform a protective function by connection to earth or other reference point.

c) Competent Person

A person, over the age of 18 years, recognised as having sufficient technical knowledge and/or experience to enable him to avoid DANGER and who may be nominated to receive and clear specified safety documents.

NB A NOMINATED COMPETENT PERSON is a COMPETENT PERSON, over the age of 18years, who has been appointed in writing to carry out specified duties, which may include authority to issue and cancel safety documents.

d) Conductor

Means a conductor of electrical energy. This means any material which is capable of conducting electricity and therefore includes both metals and all other conducting materials.

e) Danger

Means risk of injury. Within the context of the Electricity at Work Code of Practice, dangerous voltages are those exceeding 50V AC and 120V DC. Also included is the risk of injury from burns, arcing, fire or explosion arising from electrical energy.

f) Electrical Equipment

Includes anything used, intended to be used or installed for use, to generate, provide, transmit, transform, rectify, convert, conduct, distribute, control, store, measure or use electrical energy.

g) Injury

Means death or personal injury from electric shock, electric burn, electrical explosion or arcing, or from fire or explosion initiated by electrical energy, where any such death or injury is associated with the generation, provision, transmission, transformation, rectification, conversion, conduction, distribution, control, storage, measurement or use of electrical energy.

h) Live

Means that the item in question is connected to a source of electricity in normal use and is at a voltage.

i) Portable (& transportable) electrical equipment

Portable (& transportable) electrical equipment includes any item of electrical equipment which if required, may be moved from place to place between periods of use, and is connected to a fixed electrical supply via a flexible lead and plug and socket arrangement. This covers a wide range of appliances, from a computer or printer, to sophisticated electronic instrumentation and domestic white goods.

j) Supervision

IMMEDIATE SUPERVISION - Supervision by a person having adequate technical knowledge or experience who is continuously available at the location where work or testing is in progress.

PERSONAL SUPERVISION - Supervision by a person having adequate technical knowledge or experience, who is at all times in the presence of the person being supervised.

k) System

Means an electrical system in which all the electrical equipment is, or may be, electrically connected to a common source of electrical energy, and includes such sources and such equipment.

4.2 Risk assessment, safe systems of work and training

- A risk assessment should be completed prior to working upon electrical apparatus or systems and a safe system of work implemented accordingly. In particular, in respect of project work, e.g. the construction of electrical rigs. Electrical equipment must be included in activity-based and/or machinery risk assessments, where appropriate.
- No person shall engage in live work unless:
  - it is unreasonable in all the circumstances for equipment to be dead;
  - it is reasonable in all the circumstances for him to be at work on or near the equipment while it is live; and
  - suitable precautions (including where necessary the provision of suitable protective equipment) are taken to prevent injury.

- Adequate supervisory arrangements should be established where there is a risk of injury with the degree of supervision dependent upon the level of risk, competence, training and experience of those carrying out the work.
- If the initial risk assessment is that work upon live equipment is unavoidable, adequate precautions must be established. Such precautions could include working in pairs, the use of screens etc. if this would significantly contribute to reducing danger.
- Persons authorised to work upon live electrical equipment, should be fully aware of the resuscitation techniques and emergency actions to be taken in the case of electrical shock. Guidance on first aid at work including basic procedures and training can be found in HSE leaflet "Basic advice on First Aid at work" (INDG 347) and guidance document; "First Aid at Work; The Health and Safety (First Aid) Regulations 1981 (L74). HSE also publish a poster for the workplace entitled "Electric shock – First Aid procedures".

4.3 Installations

- Fixed installations in buildings are the responsibility of the academy.
- Academies are also responsible for equipment from the socket outlet, or in prescribed cases distribution board or isolating device. This includes; electrical equipment, power converters, generators, uninterruptable power supplies units that differ from the standard supply voltage & frequency.
- For normal use all conductors on apparatus should be effectively insulated or otherwise protected to prevent danger.

4.4 Use of portable (& transportable) electrical equipment

Wherever reasonably practicable, portable (& transportable) electrical equipment (i.e. equipment which is not part of a fixed installation and requires a plug and socket or a spur box) should operate at a Low Voltage.

- For applications where portability is required, rechargeable equipment should be considered.
- Alternatively, 110V supplied by a centre tapped to earth transformer should be utilised.
- In cases where by a process of selection or replacement, LV equipment is not available, or practicable in a particular set or circumstances, portable (& transportable) electrical tools should either be all insulated or of double insulated construction where practicable.
- Where portable (& transportable) equipment with earthed metalwork is used it is required that portable (& transportable) or fixed 30mA residual current protection be provided and used, particularly in harsh environments.

4.5 Periodic Testing of LV System

All fixed LV electrical systems owned by SPTA shall be periodically inspected and tested in accordance with BS 7671.1992 (17th Edition I E T Wiring Regulations).
The frequency of inspection and testing of final circuits shall not exceed five years. The frequency of testing of certain circuits may be reduced based on risk assessment.

Circuit Identification

All LV switchgear and distribution boards shall be uniquely identified by securely attached and prominent labels. Each distribution board shall have an on-site circuit chart which allows accurate and easy identification of all circuits connected to the switchboard.
Final circuit outlets shall only be labelled to reference them to their controlling switch/fuse and distribution board, both internally and externally.

LV schematic diagrams showing the premises LV electrical system layout and circuit/switchgear identification references should be provided and updated as necessary.

LV Fixed Equipment Maintenance

All low voltage equipment (e.g. ventilation systems, industrial boiler plant, lifts, industrial compressors etc) shall be regularly inspected, serviced and tested to ensure that it is maintained in a safe and serviceable condition. The frequency of testing shall be risk assessment but shall not exceed three years.
A record of maintenance of electrical equipment shall be kept by the academy and will contain brief details of all inspections, routine servicing, repair and modifications**. This information to be entered onto the EVERY system**

5.0 Responsibilities

5.1 Principal

- The Academy Principal is the Designated Person and is required to ensure that adequate human and financial resources are available to allow this policy to be implemented and adhered to.

5.2 Health and Safety Coordinator/Facilities Manager/Site Superintendent

The Health and Safety Coordinator/Facilities Manager/Site Superintendent is the Duty Holder and has imposed duties in connection with safety in the Electricity at Work Regulations and is required to ensure that:

- Suitable and sufficient risk assessments are carried out with respect to risk to persons and property All LV systems are operated and maintained so as to prevent, so far as is reasonably practicable, danger to persons or property;
- The appointed competent person has the appropriate training, knowledge and experience to prevent danger;
- Only persons authorised to work on the LV network do so. All such authorised persons (SPTA employees or otherwise) shall have the technical knowledge and experience to prevent injury unless such persons are under such degree of supervision as may be appropriate having regard to the nature of the work;
- Any consultants appointed to advise on the LV network can demonstrate their competence with respect to knowledge, skills and training and have sufficient resource;
- All SPTA employees authorised to work on the LV network have the appropriate initial and refresher training;
- The maintenance contract for the inspection and testing of the Academy's LV installations is carried out in accordance with the maintenance contract;
- Those who undertake supervision of others, whose technical knowledge or experience is insufficient for them to undertake the work safely, are aware of their responsibilities. The degree of supervision and the manner in which it is exercised is for the duty holder to arrange to ensure that danger or injury is prevented;
- The effectiveness of LV maintenance policies is monitored. Without effective monitoring the duty holder cannot be certain that the requirement for maintenance of the LV system has been complied with;

- All the above duties are discharged subject to sufficient resources being available and responsible for alerting the line management if resources are insufficient to discharge these duties;
- All works must only be carried out by a competent and appropriately qualified staff provided by approved electrical companies.

5.3 All Employees

The duties placed on the employee are equivalent to those placed on the employer in situations which are in their direct control. Employees must not put themselves in danger as a result of their lack of competence to carry out the tasks they are attempting. Employees are responsible for the safety of themselves and others at the place of work.

It shall be the duty of every employee while at work:

- To comply with the provisions of the specified statutory regulations so far as they relate to matters within their control;
- To co-operate with the employer, via the management and supervisory staff, so far as is necessary, to enable the employer to perform on and comply with the provisions of the Electricity at Work Regulations 1989;
- To undertake work in connection with electrical systems only where competent to do so;
- Appreciate the dangers involved in the work being undertaken;
- Recognise when such dangers are present;
- Undertake and implement safe working practices which remove the danger;
- Understand the different types of injury that could occur if the working methods used are faulty or ineffective;
- Receive sufficient first aid training so as to treat injuries caused by contact with electricity and electrical plant and machinery.

6.0 Training

- All persons with responsibilities under this guidance, (except students), must be familiar with their duties under the Regulations and the Electricity at Work policy.
- Copies of statutory Instruments, codes of practice, guidance notes etc., referred to in this Policy must be made available to all employees having duties in respect of this guidance, should they request them.
- Persons appointed to monitor portable (& transportable) electrical equipment must be competent. Any formal training given should be entered on the person's training and employment records.
- All users of electrical equipment must be instructed in its safe use by a competent person. For equipment with no special risks, reading the manufacturer's instructions for use will be adequate.
- Users of equipment that may contain or produce special risks must be formally trained by a competent person, to avoid danger.
- Where people are at greater risk of electric shock, and therefore may require emergency resuscitation or treatment for electrical burns, the provision of specialised training for first aiders should be provided. The departmental electrical safety risk assessment and/or the first aid risk assessment will inform the decision on the number of first aiders.

7.0 Reference / Guidance

The Health and Safety at Work etc. Act 1974
The Electricity at Work Regulations 1989
Electricity Supply Regulations 1988
Reporting of Incidents, Disease & Dangerous Occurrences Regulations 2013
Workplace (Health, Safety and Welfare) Regulations 1992
BS7671-2008 17th Ed IEE Wiring Regulations (including amendments).
HSE Guidance

8.0 Appendices

Appendix A - Portable (& transportable) electrical equipment

Appendix A

Portable (& transportable) electrical equipment

Academies are responsible for ensuring that portable (& transportable) electrical equipment is maintained in a safe condition. Low risk equipment may not require a Portable Appliance Test (PAT) and a visual inspection will suffice. There is considerable evidence to indicate that almost 95% of equipment defects can be detected by visual inspection. Furthermore, the defective components are most likely to be the plug and flexible cable.

Regular routine PAT testing of portable (& transportable) electrical equipment should be implemented in accordance with this Policy and Code of Practice. The standard interval for testing portable (& transportable) electrical appliances is **12 months.** However, Academies may decrease or increase this frequency in accordance with their own electrical safety risk assessment, and standards recommended by the HSE. Suggested initial intervals for checking portable electrical equipment are given ***below.***

The frequency of inspection should be correspondingly altered in Every to match the frequency described below or the frequency adopted by the academy.
PAT testing can be carried out by suitable qualified academy staff or by an SPTA recommended specialist provider

Equipment /environment	User checks	Formal visual inspection	Combined inspection and testing
Battery operated (less than 40 V)	No	No	No
Extra low voltage (less than 50 V AC): telephone equipment, low voltage desk lights	No	No	No
Desk computers, VDU screens	No	Yes, 2-4 years	No. if double insulated, otherwise up to 5 years
Photocopiers, fax machines; not hand held, rarely moved	No	Yes, 2-4 years	No if double insulated, otherwise up to 5 years
Double insulated (Class II) equipment: Not hand held. Moved occasionally, e.g. fans, table lamps	No	Yes, 2-4 years	No
Double insulated (Class II) equipment: Hand held, e.g. some floor cleaners, some kitchen equipment	Yes	Yes, 6 months-1 year	No
Earthed equipment (Class I): Electric kettles, some floor cleaners, some kitchen equipment and irons	Yes	Yes, 6 months – 1 year	Yes, 1-2 years
Cables (leads and plugs connected to the above) and mains voltage extension leads and battery charging equipment	Yes	Yes, 6 months - 4 years depending on the type of equipment it is connected to	Yes, 1 - 5 years depending on the type of equipment it is connected to

Portable (& transportable) electrical appliances should, apart from specified low risk equipment, be subject to testing utilising a PAT tester. The use of a pass/fail PAT tester is normally acceptable as a minimum requirement for checking the validity of the earth and insulation. In cases following repair, or where more sophisticated specific readings are required, the department may use a more comprehensive form of portable appliance tester capable of producing specific readings.

Multi-way plug adaptors must not be used. Over loaded adaptors can cause overheating from excessive current load and the earth pins on the appliances plugged into them are also vulnerable to incomplete contact, which stops earth faults from blowing the circuit as designed. Where there are insufficient sockets:

- only individually fused extension leads are permitted, (no multi-way plug adaptors); and
- extension leads must not be coupled in series ("daisy chained"). Where additional distribution of electrical power is found necessary, more wall sockets should be requested.

Equipment operating at voltages less than 25 volts ac or 60 volts dc, can be excluded from test and inspection procedures, providing that the risk assessment shows there is no risk of injury from electric shock, electric burn, electrical explosion or arcing, or from fire or explosion initiated by electrical energy.
Before equipment is taken into service the competent person appointed to monitor its condition must enter equipment details on the appropriate register and record that a competent person has confirmed that the equipment is:

- suitable for the intended service environment
- free from defects and is correctly fused
- equipped with a serviceable flexible lead, manufactured to the relevant standard.
- functioning correctly and has passed the relevant electrical tests.

User checks will be carried out by person(s) using the equipment. Periodic formal visual inspections and combined inspections and tests will be carried out by competent persons properly trained and appointed to do so.
The periodic inspection and testing of portable (& transportable) equipment must be carried out by person(s) competent to do the following:

- Avoid the dangers presented by the PAT test and the equipment under test.
- Securely isolate the equipment under test from the supply system and safeguard other persons who may be affected by the test.
- Visually inspect and electrically test portable (& transportable) equipment and correctly interpret the results of the test and inspection.
- Take the necessary action to withdraw defective equipment from service and initiate repairs or scrap it.
- Record the results of the inspection and test.
- Affix a sticker to the equipment to indicate pass/fail and next date of inspection.

The types of checks and tests, by whom they should be carried out and what they should include, are detailed in the table below. This is not an exhaustive list, however it represents a guide to what should be included. The results of these checks, inspections and tests should be recorded.

Type of testing	Conducted by	To include
User checks	Person using equipment	Damage to cable sheath. Damage to plug. Inadequate joints, including taped joints in the cable. Damage to the external parts of the casing of the equipment. Evidence of overheating
Formal visual inspections	Competent person with academy / department.	Removing the plug and checking the fuse Checking the cord grip is effective Cable terminations are secure and correct
Combined inspection and test	Competent person with Academy / department / Contractor	The correct polarity of supply cables. Correct fusing.