

Imperial College Union Policy Portable Electrical Appliance Policy

Audience: All Staff
Owner(s): Leadership Group
Created Date: April 2021
Review Date: April 2024
Date Approved:
Approving body:

1. Policy statement

Imperial College Union is committed to ensuring the health, safety and welfare of its members, staff, customers, suppliers, visitors and all others who may be affected by its activities.

Imperial College Union recognises that good management of health, safety and welfare is essential to the success of the organisation and is a sign of a well-managed organisation.

Imperial College Union is committed to ensuring that procedures are in place to identify hazards, assess risk and set objectives to improve the management of health, safety and welfare.

Imperial College Union acknowledges its duty to ensure that all relevant legislation regarding health, safety and welfare is adhered to and that resources are made available to ensure health, safety and welfare.

Imperial College Union is committed to developing a positive safety culture, based on the involvement of staff and volunteers in health and safety management. Imperial College Union will therefore use consultative forums and mechanisms to involve staff and volunteers in health and safety management, and will endeavour to provide relevant training to all staff and students.

Imperial College Union commits to reviewing this policy at least every 2 years, or as and when necessary, with approval for the policy to take place at the Board of Trustees.

2. Introduction

Portable electrical appliances must be regularly inspected and tested by competent persons to ensure that they can continue to be used safely.

The planned inspection and testing will include:

- Visual Inspection for signs of damage or deterioration; and
- Electrical tests, i.e.
 - an earth continuity test; and
 - relevant Insulation tests.

The test results will be recorded to allow for future comparison, for written identification of defects to be remedied and to provide information for an assessment of risk.

Where the College allows staff to use their own appliances, e.g. mobile phone chargers, radios, they must be included in the inspection and testing arrangements. If they are found to

fail in any way, they must be removed from the premises and repaired at the owner's expense. The use of personal electric heaters is not permitted.

3. Responsibilities

Board of Trustees

The Health and Safety at Work Act 1974 places a statutory duty on organisations to ensure, so far as is reasonably practicable, the safety, health and welfare of its employees at work and other people who may be affected by their activities, e.g., membership, volunteers, members of the public.

The Board of Trustees, as the governing body of the Union, has overall and final responsibility for Health and Safety matters within the Union and for ensuring that Health and Safety legislation is complied with.

The Managing Director

The Managing Director has delegated responsibility for the implementation, monitoring and review of the Health and Safety Policy and associated policies. As required by the 'Management of Health and Safety at Work Regulations 1993' the Managing Director is named as the 'competent person' who will ensure compliance with Health and Safety. In particular the MD is responsible for:

- The setting of Health and Safety standards and objectives.
- The allocation of the necessary financial resources.
- Identifying and allocating Health and Safety responsibilities to Senior Managers / Departmental Heads.

Leadership Team Lead

The Managing Director will delegate to a membership of the leadership team the following responsibility:

- Ensuring general risk assessments are undertaken and made available to all employees.
- Monitoring and reviewing the effectiveness of Health and Safety activities and the Union's Health and Safety Policy and associated policies and procedures, and for ensuring that, at the strategic level, performance standards and timescales are adhered to.
- Ensuring accidents are investigated and reported to the Board of Trustees.
- Putting in place arrangements to monitor the maintenance of the premises and equipment.
- Chairing the Students' Union's Operational Health and Safety Committee and ensuring it has the time, facilities and resources to carry out its business effectively.
- Keeping under review this Health and Safety Policy and the Health and Safety performance of the Students' Union.

Line Managers

Health and Safety is a delegated line management responsibility requiring managers to undertake operational Health and Safety duties identified in this Policy and individual policies and procedures associated with Health and Safety. All Departmental Heads will be trained in relevant Health & Safety courses (i.e., Risk Assessment, COSHH) and where appropriate (IOSH, NEBOSH) to ensure areas/ teams are managed safely.

Line Managers are responsible for:

- Ensuring that departmental activities are conducted in accordance with Union policy, legislative, and other formal standards and that those hazards having the potential to cause harm are risk assessed and identified controls are implemented.
- Ensuring that employees receive sufficient information, training and supervision on Health and Safety matters.
- Producing safe systems of work and the means for complying with this Policy and other individual policies and procedures associated with Health and Safety.
- Where necessary, organising supervision to control the working environment and the maintenance of safe standards.
- Investigating accidents, or near misses, to establish causes and prevent recurrence.
- The Health and Safety induction of new staff, volunteers and students and ensuring that information, instruction and training are provided to meet individually identified needs.
- Identifying and monitoring the adequacy of the specific Health and Safety responsibilities of staff and students.
- Reviewing the above arrangements at regular intervals, making adjustments as necessary.

Individual Members of Staff, Volunteers, Students and Visitors

Individual members of staff, students and visitors have a legal duty to co-operate and comply at all times with the Health and Safety information, instruction and training provided. They must bring to the attention of their line manager or duty manager, without delay, any hazards identified, or improvements identified as necessary. If a hazard is seen, it should be removed or dealt with as soon as possible if it is safe to do so. It should also be reported using the Unions incident reporting system as a matter of priority.

Individual members of staff and students have a duty to take reasonable care for the Health and Safety of themselves and for other persons whom their actions or omissions may affect. Specifically, no person shall intentionally or recklessly interfere with or misuse anything provided in the interests of health, safety or welfare. Serious breaches of the Health and Safety Policy (e.g., misusing equipment, deliberately putting someone else's safety in danger) will be dealt with through the Union's Disciplinary Procedure.

Individuals must take responsibility for being aware of fire hazards, knowing the location of fire exits, the assembly point and the fire drill instructions. All new employees to the organisation will be inducted in Fire Safety and the Evacuation Procedure immediately upon commencing employment.

Health and Safety matters may also be raised by any employee at 1-2-1 meetings, team meetings and at Town Hall meetings, which occur regularly.

Operational Health and Safety Committee

The Operational Health and Safety Committee will meet at least once per term, although additional meetings may be called by the Managing Director, Officer Trustees, or the Board of Trustees should the need arise. Membership of the committee will be determined by the Managing Director.

The Committee will have the following terms of reference:

- To maintain and review the measures necessary to ensure the Health and Safety of Union employees, students and others engaged in legitimate activities on its premises.
- To set and review H&S performance and objectives to improve H&S management and maintain a positive H&S culture.

- To monitor the management processes employed within the Students' Union to mitigate risk, notably the implementation and annual review of risk assessments.
- To monitor and review H&S related incidents, implement investigations and complete corrective action (where appropriate and necessary) in a timely manner not to exceed 6 months.
- To monitor and review the H&S audit and inspection process, both internal and external, and implement recommendations where appropriate.
- To monitor and review the adequacy and implementation of H&S related training, awareness and competency standards.
- To enable complaints and reports from employees to be investigated, remedial action to be implemented, and response provided.
- To submit an annual report to the Board of Trustees summarizing the committee's output and effectiveness.

In addition to the Operational Health and Safety Committee, the Board of Trustees may from time to time determine the need for a sub group of the Board to take on specific governance oversight of the Union's Health and Safety activity to ensure sufficient scrutiny and consideration is given to this area of work.

4. Definitions

A Portable Electrical Appliance is any electrical equipment capable of being carried and, in general, connected to the mains supply by a flexible lead and a plug. The definition includes appliances with their own power sources, e.g. "intrinsically safe" equipment used in potentially explosive environments and equipment designed to operate at 110 volts. The definition does not include equipment that is "hard" wired, e.g., heavy equipment supplied by a fixed, armoured, power cables, which is tested using other regimes.

Class I appliances rely on earthing of the conductive case and one layer of insulation covering its live internal parts for protection against electric shock.

Class II appliances are "double insulated", ie they rely on two layers of insulation between live internal parts and the user for protection against electric shock.

Competent Person is a person who is employed or contracted by the College who has received suitable and sufficient training in Portable Electrical Appliance Inspection and Testing (see Section Training)

5. Schedule of Inspection and Testing

Visual Inspection

Since over 80% of electrical faults are discovered by visual inspection, this is the most important element of Inspection and Testing.

The following schedule is recommended.

Component Common Fault

Plug

Common Faults: Cracked casing, bent pins, Incorrectly rated fuse; Incorrectly connected wires; Loose connections; Loose cable clamp

Mains Lead

Cuts, fraying, brittle Kinked, coiled Taped joints; Overloaded (overheated); Male connector (if fitted), non-standard (IEC 320, BS4491, CEE22); Not secured by grommet/clamp on appliance

Appliance

Damage/faulty operation of off/on switch; Damage to casing Loose parts; Missing screws; Evidence of overheating; Evidence of moisture; Missing double insulation mark on insulating casing (where appropriate); Accessible fuse holders: damage or removal of carrier permits live part to be touched; Exposed output connections have marked voltage rating >50V

Electrical Testing

A commercially available **Portable Appliance Tester (PAT)** is required for electrical testing of robust appliances. Some PATs have a facility for testing 110 V equipment. A PAT **must not be used** on sensitive electronic equipment such as computers, as permanent damage may be caused by the high-test voltages and currents.

The following schedule is recommended, carried out in the order as written:

Class I Appliances Earth Continuity / Bonding Test

This test is for checking the earth lead continuity and earth connection (or bonding) to the metal casing of an appliance. A voltage is established between the appliance's mains supply earth pin and its case. There are usually two tests available: (I) 4 A / 300 mW for light duty supply cables (up to 6 A); and (II) 25 A / 300 mW for heavy duty supply cables. The resistance between the earthed case and the earth pin on the mains plug must not be more than 300mW.

Insulation test

This test checks the integrity of the appliance's insulation. For Class 1 appliances the test voltage is applied between the appliance's mains supply plug P (phase) and N (neutral) pins connected together, and the E (earth) pin which is held at earth potential. The insulation resistance must withstand a high voltage (500V dc / 2 MW) for five seconds.

Earth Leakage test

This test shows the level of leakage current in the appliance by monitoring the difference in currents flowing in the phase and neutral connections; any difference must be flowing to earth. This provides a useful way of predicting approach of appliance breakdown since the level of leakage current is a guide to the condition of insulation. Since many appliances are designed with earth leakage, this test is not mandatory; faults are indicated in the Insulation Test described above.

Flash test

This test shows the response of the insulation to ac voltage (indicating problems due to excessive capacitive current) and gives an early warning of insulation problems. There is normally a choice of two flash tests; low and high voltage. Since the high voltage test may stress the insulation and cause degradation, it is recommended that the low voltage flash test only is used.

Operation VA test (optional)

This test indicates that the appliance is in good working order and not drawing excessive current.

Class II Appliances

Test as for Class I Appliances, except with the omission of the Earth Continuity / Bonding Test.

Sensitive Electronic Equipment

Earth Continuity / Bonding Test ONLY.

Do NOT use a PAT device.

Using a multimeter able to read to 300mW, the resistance between the earth pin and exposed metal (not signal sockets) should be less than 300mW.

Three phase equipment

The inspection and testing of three phase equipment is a specialist task which must be carried out by a member of staff qualified under 'Part P' or under a service contract.

6. Frequency of Inspection and Testing

There is no statutory frequency of inspection and testing. The frequency should reflect the risk of the appliance causing damage or injury. This increases with amount of appliance use and the harshness of its working environment. The following is recommended as a minimum standard:

Visual Inspection

On initial use and after moving the appliance and regularly during its lifetime.

Visual Inspection and Portable Appliance Testing

Risk level examples of when to check

High risk - Heavy use / Outside use, e.g. tools and equipment used outside or in a way such that their power leads may be subject to mechanical damage or will get wet – **every 6 months**

Medium risk - frequently moved and used (used inside in dry, benign environments), e.g. hand held appliances, kettles, laboratory stirrers, heating mantles - **every 12 months**

Low risk - infrequently moved but regularly used, e.g. desk lamps analytical instruments, vacuum pumps, heaters - **every 24 months**

Very low risk - stationary equipment, normally double insulated, power leads have no likelihood of stress, mechanical damage (e.g. personal computers, power leads only every 5 years)

7. Recording of Inspection and Testing Results

When new electrical appliances are purchased it is a good idea to label them with a date of purchase. No PAT test is required initially but the date of the first PAT test, based on risk, can be easily determined from reading the label.

A dated test label indicating PASS or FAIL and its identification (eg inventory number) must be affixed to the appliance (and to the plug, if the lead is detachable).

The inspection and test results must be kept in written form: on record cards, sheets or in a book. Computers may aid record keeping.

The Clerk of Works should keep the results centrally, as the Enforcing Authorities (eg the Health and Safety Executive) may wish to inspect them.

8. Monitoring of Inspection and Testing Results

Results should be recorded centrally, i.e.

- number of appliances tested; and
- test result (pass or fail),

This will provide important information on the number and condition of appliances held.

9. Remedial Action

If inspection and testing show the appliance is faulty, it is **unsafe** and it **must be taken out of service until remedial action is taken**.

Unless remedial action is immediate a “DO NOT USE” label must be attached to the appliance and plug.

10. Review

The Policy Owner is responsible for conducting a comprehensive review of their policies at a minimum of every 3 years or as required to stay current with applicable laws and/or Imperial College Policies.

The purpose of the review is to determine:

- if the policy is still necessary and accurate;
- if the policy should be combined with another policy or if it should be rescinded;
- if the policy is up to date with current laws and regulations and Imperial College policies;
- if changes are required to improve the effectiveness or clarity of the policy.

11. Training

Inspection and Testing must be carried out by Competent Persons i.e. a member of staff who has received suitable and sufficient training.

The decision as to whether an individual is competent to undertake a particular task is left to the Clerk of Works. It is necessary to weigh up the job's skill content against the individual's attributes, taking into account his or her:

- electrical knowledge;
- electrical experience;
- understanding of the system/equipment to be worked on;
- understanding of the hazards which could arise; and
- the ability to recognise at any time whether it is safe to continue to work.

Both formal theoretical training and practical “on the job” training, using the test equipment, are normally necessary. The former can be arranged with a training provider.