

# **ELECTRICITY AT WORK**

## **Corporate Health and Safety Arrangement**

December 2022

# Contents

|  |    |
|--|----|
| <b>Summary</b> .....                           | 4  |
| <b>Introduction</b> .....                      | 6  |
| <b>Scope</b> .....                             | 6  |
| <b>Responsibilities</b> .....                  | 8  |
| University Executive Board and Governors ..... | 8  |
| Corporate Health and Safety .....              | 8  |
| Estates and Campus Services.....               | 9  |
| Faculty Managers.....                          | 10 |
| Managers and Supervisors.....                  | 10 |
| Employees and Students.....                    | 11 |
| Contractors and Service Providers.....         | 12 |
| <b>Arrangements</b> .....                      | 13 |
| Personal Equipment.....                        | 13 |
| <b>Training Requirements</b> .....             | 15 |
| <b>Monitoring Compliance</b> .....             | 16 |
| <b>Legislation</b> .....                       | 17 |
| <b>Associated Documents</b> .....              | 17 |
| University Arrangements .....                  | 17 |
| University Forms .....                         | 17 |
| University Guides .....                        | 17 |
| Health and Safety Executive Guides .....       | 18 |
| Technical Guidance Notes.....                  | 18 |
| <b>Document Control</b> .....                  | 18 |
| Change Record .....                            | 19 |
| Reviewers / Contributors .....                 | 19 |

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<https://staff.port.ac.uk/departments/services/corporategovernance/healthandsafety/physicalsafety/Electricity/>

## Summary

### What is this document about?

This arrangement is intended to enhance the safety of all staff, students and visitors with respect to electrical systems and equipment by making all employees aware of their responsibilities and duties under the Electricity at Work Regulations. Electrical safety is not solely the responsibility of Estates and Campus Services. “Nearly a quarter of all reportable electrical safety incidents/accidents involve portable equipment. The vast majority of these incidents/accidents result in electric shock”.

With the vigilance of staff and students and the appropriate planned maintenance it should be possible to reduce the risk and mitigate “reportable electrical incidents/accidents” due to portable equipment, thus improving the electrical safety of staff, students and visitors. Work on the University’s electrical infrastructure, systems and equipment may only be performed by personnel appointed and approved as a ‘Competent Person’. All works carried out on the electrical system must be certificated with the appropriate certificate as defined within BS 7671. This also includes emergency lighting.

### Who is this for?

These arrangements are intended for all University staff and students, visitors and contractors who use or are exposed to hazards associated with electricity including electrical equipment either owned and controlled by the University and/or while being used in conducting University activities.

### How does the University check this is followed?

Corporate Health and Safety monitor University activities to ensure compliance with legislation, best practice, University policies, arrangements and procedures associated with the safety of staff, students and visitors. Monitoring health and safety performance occurs in a number of ways.

Active methods monitor the design, development, implementation and operation of management arrangements. These tend to be preventive in nature. For example: inspections of premises, plant and equipment; health surveillance to prevent harm and auditing to ensure effective implementation of arrangements. Reactive methods monitor evidence of poor health and safety practice but can also identify better practices that may be transferred to other parts of the University. For example: investigating accidents and incidents and monitoring cases of ill health and sickness absence records.

Estates and Campus Services equally monitor results from inspections of all University buildings and property compliance, as well as feedback from staff and students.

Outcomes from audits, risk assessments, accident and incident data, fault reporting, as well as feedback from staff and students are utilised to ensure continual improvement.

## Who can you contact if you have any queries about this document?

Any questions about this arrangement should be directed to the [Corporate Health and Safety Team](#).

## Introduction

The University is committed to ensuring the health, safety and welfare of all staff and others who could be affected by its activities so far as is reasonably practicable. This arrangement has been produced in order that all staff and others including contractors are aware of both the University's and their own responsibilities under the Health and Safety at Work Act in respect of electrical services and equipment which falls under the Electricity at Work Regulations.

The Electricity at Work Regulations requires organisations to have arrangements in place to safeguard those who may be affected by electrical services and equipment. The University has therefore adopted the Health and Safety Executives Approved Code of Practice and Regulations.

All persons working on the electrical systems and with electrical equipment must be suitably qualified and competent. To this end the University has committed to operating and maintaining its electrical systems, plant and equipment to a suitable level in order to minimise risks, incidents/accidents and injury from these activities and systems. In addition, the Electricity at Work Regulations has strict requirements on "Live Working". Live working on mains electrical services within the University will not be permitted. If any authorised and competent person has any doubt about the safety of any electrical work, the University's Electrical Authorised Persons must be consulted before any work is carried out.

## Scope

This arrangement shall have effect with a view to protecting staff and students against a risk to their health and safety, whether immediate or delayed, arising from University activities and applies to:

- All Managers
- All Employees and Students of the University
- All Contractors and Service Providers working on behalf of or in connection with the University

This arrangement applies across all areas of the University, the services that it provides and to all staff contracted to work in the University's properties whether owned, rented, leased or otherwise

provided for the purpose of University related activities (University property). Separate additional requirements for electrical safety are made for those working in an electrical capacity on the electrical infrastructure, plant, equipment and appliances belonging to the University, some of which are found in the following publications:

- BS 7671 IET Requirements for Electrical Installations
- The IET Code of Practice for 'in-service Inspection and Testing of Electrical Equipment
- IET Guidance Note 7 – Special Locations
- HSG 85 - Safe working practices
- HSG 107 - Maintaining transportable and portable electrical equipment
- HSG 230 - Keeping Electrical switch gear safe

This includes but is not limited to:-

- Estates and Campus Services
- Installation Contractors and Suppliers
- Specialist Maintenance Contractors and Suppliers
- Consultants (Building Engineering Services)
- Inspection and Test Contractors and Suppliers

This policy does not apply to electrical equipment owned by staff, students or visitors. The University recognises that such equipment may be connected to the University electrical system. The University will accept the use of privately owned double insulated (Class II) equipment in non-residential buildings as long as it is maintained in good condition and working order and is used in appropriate circumstances.

This arrangement applies to items of work equipment and not personal property of students living in University Halls of Residence. Where electrical equipment is brought into the University by students for their personal use (e.g. laptops and mobile phone chargers) then these do not need to be tested by the University. It is, however, important that these personal items of electrical equipment are in good condition and electrically safe. Students therefore need to be made aware of this as part of their

course and residential induction. Where electrical equipment and/or appliances are brought into the University by contractors, their company is responsible for the testing and maintenance, e.g. Contract Cleaners.

As the University may operate out of leased or rented buildings and carries out work on behalf of the landlord on occasions as detailed in lease/rental agreements, the relevant landlord's electrical safety arrangement needs to be read in conjunction with the University's.

## Responsibilities

### University Executive Board and Governors

Areas of responsibility in relation to senior team i.e. University Executive Board, Board of Governors and associated committees are defined in the University Health and Safety Policy. This arrangement forms part of the University's Health and Safety Policy and should be read in conjunction to the Health and Safety Policy which outlines senior responsibilities. In particular the following responsibilities are specific to this arrangement:

### Corporate Health and Safety

Corporate Health and Safety are responsible for:

- 1.1. Protecting the health and safety of individual staff and students by the prevention of incidents and early detection of adverse health effects which may be caused by electricity at work, hazardous activities, substances or equipment.
- 1.2. Evaluation of existing control measures and identification of areas where improvements may be required.
- 1.3. Collect, maintain and use results and information to assist in determining and evaluating hazards to health for the prevention of harm.
- 1.4. Demonstrate compliance against regulatory requirements and provide assurance through the Health and Safety Framework and board.



## Estates and Campus Services

Estates and Campus Services are responsible for:

- 1.5. The management of statutory electrical testing of the fixed wiring system and control the work of contractors and directly employed tradesmen.
- 1.6. Only trained and competent persons undertake work on the electrical distribution systems or electrical equipment and are installed in accordance with the Institution of Engineering and Technology (IET) Wiring Regulations
- 1.7. All electrical distribution systems are subject to regular maintenance, inspection and testing.
- 1.8. Safe systems of work that where necessary may include a Permit to Work are implemented
- 1.9. Appointing sufficient Authorising Engineers, Authorised Persons and Competent Persons to undertake the practical implementation of electrical management plans. This includes the appointment of competent persons to undertake work on said systems.
- 1.10. Managing fault reporting for electrical equipment, systems and / or appliances, these are serviced and inspected at the appropriate intervals by qualified and competent persons.
- 1.11. Ensuring process for in-service inspection and testing of electrical equipment are effectively and suitably managed centrally and subject to testing. These would include Portable Appliance testing (PAT) but also include inspection and testing of other non-portable types of equipment as defined in later sections of these arrangements. These processes would also cover 3 phase equipment.
- 1.12. Ensuring that electrical safety compliance is reported through the health and safety framework.
- 1.13. Ensuring that all persons who engage the services of external contractors to undertake work on University plant and equipment have a responsibility to ensure that the contractor is competent (e.g. skills, qualifications and experience) to undertake that work. They shall also ensure:  
  
Contractors are made aware of the requirement to undertake safe electrical isolation.
- 1.14. Ensure that those undertaking electrical testing or PAT testing or maintenance liaise and coordinate with the necessary department as to ensure disruption is minimised and the department or team are aware of the testing or maintenance.

## Faculty Managers

Faculty Managers are responsible for ensuring:

- 1.15 This arrangement is effectively and suitably implemented by their respective faculties.
- 1.16 Systems, processes and resources are in place and monitored in relation to electrical systems and equipment.
- 1.17 Any relevant equipment requiring portable appliance testing, any equipment requiring removal from the portable appliance testing regime, is brought to the attention of Estates and Campus Services.
- 1.18 Managers are aware of their responsibilities in relation to this arrangement.
- 1.19 Appropriate reporting through the health and safety framework.
- 1.20 Where portable appliance testing is carried out as part of the faculty (Faculty Managed) assurance of compliance must be provided through the health and safety framework.

## Managers and Supervisors

Managers and Supervisors are responsible for ensuring they are familiar with and adhere to this arrangement and Health and Safety Executive (HSE) Guidance and in summary must ensure that:

- 1.21. This arrangement is effectively implemented in the area that they manage.
- 1.22. Academic Departments and Professional Services are responsible for ensuring that Estates and Campus Services are informed and notified of any electrical equipment owned, planned to be purchased or disposed of by their departments in accordance with this arrangement.
- 1.23. Risk assessment and appropriate controls are in place to reduce risks. Appropriate preventive and protective risk control measures are in place including testing, inspection and maintenance of equipment, systems and appliances and keeping associated records.
- 1.24. All electrical equipment, systems and / or appliances are subjected to appropriate testing by a competent person.
- 1.25. All recommendations and actions made by a competent person regarding electrical equipment is carried out.

- 1.26. Faults on electrical systems and equipment are appropriately reported to Estates and Campus Services.
- 1.27. Users of electrical equipment, systems and / or appliances have been appropriately trained.
- 1.28. Safety devices or systems are not interfered with.
- 1.29. Hazardous operations under their control are avoided as far as is reasonably practicable. Where hazardous operations cannot be avoided, appropriate risk assessments are carried out and action taken to reduce the risk as far as is reasonably practicable.
- 1.30. Work equipment has appropriate markings and warnings and that all faulty or defective equipment is reported and taken out of use.
- 1.31. All employees and students are aware through the provision of suitable and sufficient information, instruction, supervision and training of the actions required to ensure safe working practices are followed.
- 1.32. Processes for monitoring performance against this arrangement are in place and reported on appropriately, liaising with Corporate Health and Safety.
- 1.33. Appropriate controls are put in place to manage hazards at source in line with the General Principles of Prevention.

## Employees and Students

All University staff and students must ensure that:

- 1.33 They comply with instruction, information and training provided.
- 1.34 Their own or others health and safety is not put at risk when carrying out work activities and to take due care of their own and others health, safety and wellbeing.
- 1.35 Adhere to the relevant risk assessments as appropriate.
- 1.36 Incidents are reported via the University's [incident reporting procedure](#).
- 1.37 They do not, intentionally or recklessly, interfere with or misuse equipment provided by the University in the interests of health, safety and welfare.

- 1.38 They do not, without consent from the manager/supervisor/ tutor/ technician managing the area, introduce any equipment for use in connection with the University, alter any fixed installations, alter or remove health and safety notices or equipment or otherwise take any action which may create hazards for others. Where research is concerned prior approval must be obtained from the appropriate person.
- 1.39 They will undertake any pre-use inspections of work equipment as required.
- 1.40 Any defects are reported to their line manager or tutor and stop using the equipment if unsafe.
- 1.41 Use electrical systems and appliances for the purpose for which they were designed and in accordance with instructions and training.
- 1.42 Not bring electrical equipment and or appliances into the workplace or use any electrical system or appliance which has not been given prior approval by a head and has not been tested by an approved and competent person.

## Contractors and Service Providers

Contractors and Service Providers are responsible for ensuring:

- 1.43 Electrical systems and appliances used in University workplaces/property are appropriately tested in accordance to the regulations and guidance.
- 1.44 The use of any electrical systems and appliances is done so as they were designed to be used and in accordance with instructions and training under the direction of Estates and Campus Services
- 1.45 All persons working on University electrical systems or appliances are competent and Estates and Campus Services approved.
- 1.46 All defective systems and appliances are reported promptly to Estates and Campus Services.
- 1.47 Not to intentionally or recklessly interfere with any safety devices.
- 1.48 Incidents are reported via the University's [incident reporting procedure](#).
- 1.49 All electrical contractors should be a member of a recognised professional body such as, the NICEIC (National Inspection Council for Electrical Installation Contracting), the ECA (Electrical Contractors Association) or equivalent professional body.

# Arrangements

## Personal Equipment

Staff and/or students should not bring personal electrical equipment or appliances into the University (e.g. radios, kettles, fridges, etc). This policy does not apply to electrical equipment owned by staff, students or visitors. The University recognises that such equipment (e.g. Laptops, Chargers, etc.) may be connected to the University electrical system. The University will accept the use of privately owned double insulated (Class II) equipment in non-residential buildings as long as it is maintained in good condition and working order and is used in appropriate circumstances.

## Equipment Hire

Equipment Hire Companies are legally required to ensure that equipment supplied by them is safe for use at work and is regularly inspected and tested before and after use. Therefore, equipment that is leased/hired by the University should not normally need to be tested by the University. It is the hiring departments responsibility to ensure that equipment is suitably compliant.

## Inspection and Testing of Electrical Equipment

The University has a varied requirement for the management of electricity and testing for safety, which will range from low risk to high risk areas. The Health and Safety Executive (HSE) have extensive guidance on electrical safety in all areas. The HSE have not given definitive rules on what should be tested because of these variations on how systems and appliances are used. However, it does stipulate that all electrical testing should be risk assessment driven. For recommended maintenance intervals refer to HSE documents [HSG107](#) and [HSG236](#). It is important that risk assessments reflect how and where equipment is used and the frequency.

The University has adopted the definitions used in the Institute of Electrical Engineers (IEE) Code of Practice for In-service Inspection and Testing of Electrical Equipment guidance:

- Portable appliance - These are appliances which are capable of being easily moved whilst in an energised state and/or operation or an appliance which can easily be moved from one place to another, e.g. vacuum cleaner, toaster, kettles, angle poise lamps.
- Hand held equipment or appliances - These items are of a portable nature which require control / use by direct hand contact. Examples include: drills, soldering irons, saws, hand held food mixers and glue guns.
- Moveable equipment (transportable) - These items are either: 18 kg or less in mass and not fixed or may have wheels to facilitate movement, e.g. electric fire, small air conditioning unit, shredder.
- Stationary equipment or appliances - These items are appliances with a mass exceeding 18kg and are not intended to be moved, e.g. refrigerator, incubator, large vacuum pumps, pillar drills.
- Information technology equipment - These items include electrical business equipment, e.g. computers, scanners, photocopiers.
- Extension leads (portable) - These items must be tested as a Class I appliance and also require a polarity test. In terms of use, these items must be used in accordance with the manufacturer's guidance and must not be 'daisy chained'.

Estates and Campus Services have responsibility for arranging PAT in accordance with the Estates and Campus Services Code of Practice for Portable Appliance Testing. NB – All Faculties and Services must maintain their own PAT register and must inform Estates and Campus Services of any new equipment or when equipment is removed in order to ensure these are appropriately scheduled for testing. The only exception to this is where any department retains responsibility for their own PAT.

The frequency of testing should be used as guidance for normal situations; however, there may be instances where more frequent testing is required. The frequency of testing must be considered when preparing a risk assessment for an activity. Factors which could indicate that additional testing is required are:

- Environment in which the equipment is being used, e.g. environmental chambers and cold rooms where there are extremes of humidity and temperature; in or near water, such as pressure washing and underwater filming; where the equipment is used off site, such as field courses.
- Damage or Interference – if the equipment is in a situation where it could be damaged or interfered with, e.g. public areas; laboratories; multi user hand held power tools; heavily used items; vehicle damage.

Electrical equipment that is loaned to students should be subject to risk assessment to determine the frequency of testing required, this requirement will normally be the responsibility of Faculties or Services. Inspection and testing should be carried out on this equipment:

- When there is reason to suspect the equipment is faulty or damaged but this cannot be confirmed by visual inspection;
- After any repair, modification or similar work to equipment.

## Training Requirements

All staff and students using electrical equipment or appliances provided by the University, as part of their employment, study or research, must complete training in the safe use and maintenance (where necessary) of the equipment or appliance they are to use.

Users must be provided with information and instructions relating to the use of the electrical equipment or appliance including information on associated risks such as noise, fumes, dusts, vibration, etc.

All training in relation to electrical equipment or appliances must be kept on the individual's employment record where appropriate in accordance with the risk. Basic training does not need to be recorded only where it relates to high risk.

Suitable training should be provided on new electrical equipment or appliances by the supplier or

appropriate person who is competent to do so, basic training into the safe operation and use of should be completed and records kept.

Where required, and identified through the risk assessments, training must be provided.

Estates and Campus Services Low Voltage Management Plan details specific competency requirements for in-house maintenance staff and contractors. This also details specific site protocols and rules. All high voltage electrical work is subcontracted to specialist contractors.

The IET Code of Practice states, those carrying out the inspection and testing must be competent to undertake the inspection and, where appropriate, testing of electrical equipment and appliances having due regard of their own safety and that of others. In order to achieve this level of competency the University of Portsmouth requires that Portable Appliance Testers hold the City and Guilds Code of Practice for In-Service Inspection and Testing of Electrical Equipment qualification 2377 and have suitable and sufficient practical training and experience. Refresher training should be undertaken every five years.

## Monitoring Compliance

| Element to be monitored                                   | Lead   | Tool  | Frequency   | Reporting Arrangements   |
|---|--|---|---|--|
| Responsibilities under this arrangement                   | Head(s), Line Manager(s), Those with Line Management Responsibilities, Faculty Managers and Health and Safety Coordinators | Determined by each individual School/department or team.  | Periodically at least Annually or following a significant change or incident, whichever soonest.          | Faculty Health, Safety and Wellbeing Committee(s) quarterly reports and minutes of meetings submitted to Corporate Health, Safety and Wellbeing Committee.                                 |
| Arrangement Suitability, Effectiveness and Implementation | Corporate Health and Safety<br>Estates and Campus Services<br>Faculty Managers and Health and Safety Coordinators          | Audit and Inspection Programs<br>Staff News, H&S Newsletters, University Communications.<br>All details including risk assessment and training.<br>Arrangement review | Periodically at least every three years or following a significant change or incident, whichever soonest. | Corporate Health, Safety and Wellbeing Report, Audit reports and inspection reports.<br>Estates and Campus services reports submitted to Corporate Health, Safety and Wellbeing Committee. |
| Incidents and complaints                                  | Senior Manager/Managers in conjunction with  | Incident reports, reviews and investigation. Risk Register(s).  | When reported; ad-hoc and   | Corporate Health, Safety and Wellbeing Report, Individual incident   |



|  |   |  |                              |  |
|--|---|--|------------------------------|--|
|  | Corporate Health and Safety and Estates and Campus Services | Fault reporting records and compliance statistics. | periodically when necessary. | reports and Faculty quarterly reports. Estates and Campus Services compliance reporting. |
|--|---|--|------------------------------|--|

## Legislation

The work equipment provided by the University may fall under more than one set of regulations. For example, some equipment is covered by PUWER and LOLER. The relevant key sets of legislation are:

- [The Health and Safety at Work Act \(HASWA\)](#)
- [The Management of Health and Safety at Work Regulations \(MHSWR\)](#)
- [The Provision and Use of Work Equipment Regulations \(PUWER\)](#)
- [The Electricity at Work Regulations \(EAWR\)](#)
- [The Personal Protective Equipment at Work Regulations](#)
- [The Reporting of Injuries, Diseases and Dangerous occurrences Regulations](#)

## Associated Documents

### University Arrangements

- [Accident Reporting](#)
- [First Aid](#)

### University Forms

- [Job Hazard Form](#)
- [Home Working Equipment Issue Checklist](#)

### University Guides

- [Procurement Webpage](#)

## Health and Safety Executive Guides

- Health and Safety Executive Guide [HSG107](#)
- Health and Safety Executive Guide [HSG236](#)
- [‘Safe Use of Work Equipment’](#) L22 Approved Codes of Practice
- [‘Using Work Equipment Safely’](#).
- [‘Providing and Using Work Equipment Safely, a Brief Guide’](#).
- [‘Buying New Machinery’](#).
- [Second-hand \(re-supplied\) Products](#)

## Technical Guidance Notes

This arrangement should be used in conjunction with the technical guidance notes which provide guidance on areas such as:

- Portable Appliance Testing Frequency (UoP-CGHS-TN-09)
- Suitability of Work Equipment
- Risk Assessment
- Maintenance and Inspection
- Misuse of Work Equipment
- Information and Training on Work Equipment
- Verbal instructions for machinery and signals
- Lifting Equipment

# Document Control

This Arrangement is issued and managed by Corporate Health and Safety.

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