QUEEN'S UNIVERSITY BELFAST

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**Estates Department**

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**PORTABLE APPLIANCE TESTING (PAT) POLICY**

**ED/D/26/2008**

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**PORTABLE APPLIANCE TESTING (PAT) POLICY**

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**PORTABLE APPLIANCE TESTING (PAT) POLICY**

# 1. General Policy on Portable Appliances

Portable electrical equipment, ‘portable appliances’, must be maintained in a safe condition through the operation of an appropriate system of maintenance and inspection.

# 2. Scope

This policy is applicable to all portable appliances which are supplied at a voltage greater than 50V ac and which are connected to the electrical mains via a flexible cable/plug and socket (usually a 13 amp outlet). (Portable does not mean that the appliance is readily portable, only that it can be moved from location to location without the need for using tools). It applies to all portable electrical equipment owned by the University or in use on University premises including portable equipment provided by the University for use within living accommodation.

Portable electrical equipment will include appliances such as:

Visual display units, computers, kettles, hand drills, photocopiers, fridges, mobile phone chargers, vacuum cleaners, televisions, video recorders, musical instrument amplifiers and PA systems, space heaters, washing machines, extension leads, hot plates etc

# 3. Authorisation

The use of any portable electrical appliance outside of the provisions of this policy, such as specialist research equipment etc., must have the authorisation of the Head of School /Director.

In these circumstances the equipment must only be used following a suitable risk assessment and an appropriate safe system of work is in place.

# 4. Responsibility

4.1 Heads of School/Directors

Heads of Schools/Directors are responsible for ensuring that all portable electrical equipment within their School/Directorate is maintained in a safe condition. They must also ensure that a register of portable electrical appliances and records of inspections and tests are maintained and that an annual report of portable appliance testing is produced.

The head of School/Director must ensure that only competent persons carry out the Portable Appliance Testing. The Estates Directorate, in conjunction with the Purchasing Department, will ensure there is an approved Portable Appliance Testing contractor. This contractor will be available to be used by Schools/Departments to carry out testing.

If the approved contractor is not to be used authorization must be sought from the Estates Directorate on the competency of organizations or personnel proposed to carry out testing.

The Head of School/Director shall ensure that all employees, students and visitors are aware of relevant sections of this policy.

4.2 Heads of Departments and Units

Heads of Departments and Units must ensure compliance with this policy within areas under their control.

## 4.3 Staff/Student Responsibility

All staff and students are responsible for carrying out the appropriate users checks, as detailed in Appendix 1, before portable appliances are used. They are also responsible for bringing equipment requiring inspection or test to the attention of management. Staff wishing to use personal portable electrical appliances on University premises on a regular basis must obtain permission from their Head of School, Department or Unit. Such appliances must be added to the portable appliance register and tested in accordance with this policy. Any equipment failing this inspection/test must not be used and shall be removed from site, or disposed of, as soon as possible.

4.4 Students in University Residential Accommodation

Students residing in University student accommodation must ensure that any personal portable electrical appliances brought onto the residential estate are in a safe working condition and conform to current safety standards. Personal portable electrical equipment must be made available for a formal visual inspection (see Appendix 1) as required by the University. Any equipment failing this inspection must not be used and shall be removed from site, or disposed of, as soon as possible.

4.5 Visitors

Portable electrical appliances belonging to and being used by persons visiting the University must be in an electrically safe condition. The University reserves the right to prohibit the use of any electrical equipment brought onto site by visitors.

4.6 Leased Equipment

Where equipment is purchased and maintained under a lease, the leaser shall be made responsible for compliance with this policy. This requirement shall be included in the lease contract documents.

# 5. Communication, Co-Operation and Co-Ordination

This Policy must be clearly communicated to all management, employees and students.

# 6. Procedures

A Register or Registers of Portable Appliances must be maintained by each School/Directorate. Registers must be in the format as detailed in Appendix 2

All portable appliances, including new appliances must be added to the Portable Appliance Register before being used.

Schools/Directorates must have testing carried out in line with the frequencies in Appendix 3. This will mean that the contractor/competent person will be required to carry out testing at least once a year.

A test label must be applied to all portable appliances. This test label must include the test date, tester identification and an equipment identification number. A re-test date will not be included on the label. The register must contain the test date, tester identification and an equipment identification number as well a re-test date based on the frequency schedule. The Head of School/Director will ensure that all equipment is tested on or before the test before date on the register.

New equipment must be labelled with the date-in-service as well as an equipment identification number and these details also entered into the Portable Appliance Register. It is not necessary to test new equipment but they should be given a visual inspection and operational check before being used.

# 7. Information and Instruction

All staff/students must be provided with adequate information to enable them to carry out user checks as detailed in Appendix 1 and other requirements of this Policy.

# 8. Supervision

Line managers and supervisors must ensure that where equipment is provided, it is inspected and/or tested according to this Policy and that staff and students carry out the user checks when necessary.

# 9. Training

Only competent persons who have undergone appropriate training in portable appliance testing and are authorised by the Estates Directorate to carry out testing on behalf of the University.

Employees/students must be provided with appropriate instruction or briefing on the requirements of this Policy.

# 10. Record Keeping

The Register of portable appliances and testing records must be kept up-to-date. An example of the PAT register is included in Appendix 2. Portable Appliance Testing records should be kept for at least seven years.

# 11. Monitoring/Audit

Schools/Directorates should monitor the compliance of this policy during workplace inspections. A summary of Portable Appliance Testing activity must be submitted to the University Safety Service on an annual basis. The PAT Register should be made available for inspection by internal/external auditors.

# 12. Regulations & Guidance

The Electricity at Work Regulations (Northern Ireland) 1991 (SR 1991/13)

Memorandum of Guidance on the Electricity at Work Regulations (Northern Ireland) 1991. HSENI (2001)

Maintaining portable electrical equipment in low-risk environments. HSE INDG 236 (2012)

# 13. Appendices

Appendix 1

User & formal visual inspection checks for portable electrical equipment

Appendix 2

PAT register format

Appendix 3

Frequency of testing

APPENDIX 1

USER & FORMAL VISUAL INSPECTION CHECKS FOR

PORTABLE ELECTRICAL EQUIPMENT

# **User Checks**

Users must carry out a visual inspection of equipment, including plugs and leads, before any item of portable electrical equipment is used.

The following are examples of visual signs that the equipment is not in sound condition:

* The cable is damaged (apart from light scuffing) e.g. kinks, cuts, abrasions.
* The plug is damaged e.g. the casing is cracked or the pins are bent.
* Equipment with an intermittent fault.
* Inadequate joints e.g. taped "block type" connectors.
* The outer sheath of the cable should be effective and secured where it enters the plug or equipment. There should be no exposed wires (obvious evidence would be if the coloured insulation of the internal cable cores were showing).
* There is damage to external casing of equipment e.g. loose parts, or screws.
* There is evidence of overheating e.g. burn marks or heavy discoloration and/or staining.
* The equipment has been subjected to conditions for which it is not suitable e.g. is it wet or contaminated.
* Protective cable grommets, which protect cables passing through sharp metal cases - these should be effective. Damaged or loose grommets are a frequent cause of premature cable failure.

Any faults must be reported to line management immediately and the equipment not used until checked and/or repaired by a competent person.

# **Formal Visual Inspection**

A competent person shall routinely carry out a formal visual inspection, which shall include checking the following:

* All the user checks detailed previously, but more formal and systematic.
* The plug is marked with the appropriate BS specification.
* The plug contains the correct rating of fuse for the equipment that it is supplying.
* Cable terminations are secure and correct where accessible.
* The cable grip is effective.
* Signs of internal damage to plug.
* Operation of the equipment on/off switch (if fitted).
* Signs of physical damage to the equipment. In particular, no live metalwork shall be exposed.

The pass or fail should be recorded on the School/Unit/Departments’ PAT register. The appliance should also be labelled accordingly. Any equipment that fails a formal visual inspection and cannot be readily and safely repaired by a competent person, must not only be labelled with a red fail label, but also unplugged and withdrawn from use immediately.

The formal visual inspection may include the opening up of the plug. It will not involve the dismantling of the equipment itself.

The frequency of inspection will depend on the conditions of use and the environment in which the equipment is being used. However, as a minimum, the interval stated in Appendix 3 shall be applied.

APPENDIX 2

PAT REGISTER FORMAT

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  | | --- | |  | | Queens University - Results for PATs January 2006 | | | | | | | | |  |  |  |  |
| **TEST NO** | **SCHOOL/DEPT.** | **BUILDING** | **APP NUMBER** | **NEW ROOM NUMBER** | **OLD ROOM NUMBER** | **DESC** | **TYPE** | **FREQ** | **UNIT** | **LASTTEST** | **NEXTTEST** | **STATUS** | **VISUAL** |
| 1381 | PHY | 10003A | 12672716 | LG029 | LG029 | HUMIDIFIER CONVAIR | EPA | 24 | M | 23/01/2006 | 23/01/2008 | PASS | PASS |
| 1382 | PHY | 10003A | 12674434 | 0G059 | G059 | HV POWER SUPPLY | EPA | 12 | M | 31/01/2006 | 31/01/2007 | PASS | PASS |
| 1383 | PHY | 10003A | 12661730 | LG062 | LG062 | HV POWER SUPPLY | EPA | 12 | M | 25/01/2006 | 25/01/2007 | PASS | PASS |
| 1384 | PHY | 10003A | 12661731 | LG062 | LG062 | HV POWER SUPPLY | EPA | 12 | M | 25/01/2006 | 25/01/2007 | PASS | PASS |
| 1385 | PHY | 10003A | 12674574 | LG064 | LG064 | HV POWER SUPPLY | EPA | 12 | M | 01/02/2006 | 01/02/2007 | PASS | PASS |
| 1387 | PHY | 10003A | 12674614 | 0G043 | G043 | HV SUPPLY SOURCE | EPA | 12 | M | 01/02/2006 | 01/02/2007 | PASS | PASS |

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|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |  |  |
| **EARTH** | **EARTH RES** | **INSULATION** | **INSUL RES** | **LOAD** | **LOAD RES** | **LEAKAGE** | **LEAK RES** | **LEAD** |
|  |  | >99.99 PASS | >99.99 | 0.06 PASS | 0.06 | <0.10 PASS | <0.10 |  |
| 0.080 PASS | 0.080 | >99.99 PASS | >99.99 | <0.05 PASS | <0.05 | 0.34 PASS | 0.34 |  |
| 0.120 PASS | 0.120 | >99.99 PASS | >99.99 | <0.05 PASS | <0.05 | <0.10 PASS | <0.10 |  |
| 0.110 PASS | 0.110 | >99.99 PASS | >99.99 | <0.05 PASS | <0.05 | <0.10 PASS | <0.10 |  |
| 0.090 PASS | 0.090 | >99.99 PASS | >99.99 | <0.05 PASS | <0.05 | <0.10 PASS | <0.10 |  |
| 0.130 PASS | 0.130 | >99.99 PASS | >99.99 | <0.05 PASS | <0.05 | <0.10 PASS | <0.10 |  |

APPENDIX 3

FREQUENCY OF TESTING

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **EQUIPMENT/ENVIRONMENT** | **USER CHECK** | **FORMAL VISUAL INSPECTION** | **INSPECTION & TESTING** | **PROCEDURES** |
| Battery operated (less than 40 volts) | No | No | No |  |
| Extra low voltage (less than 50 volts AC) | No | No | No |  |
| Office IT equipment (eg Personnel Computers, VDU Screens | No | Yes, 4 Years | No if double insulated - otherwise 5 years | If testing is required it should be carried out during the formal visual inspection. |
| IT equipment in Student Computing Centres (SCCs). | No | Yes, 2 years | No if double insulated - otherwise 4 - 5 years | Computers from SCCs should be inspected and tested before being reallocated to other areas. |
| Cables (leads) associated with the above IT equipment. | Yes | Yes, 2 years | Yes, 2 - 4 years | Tested every 2 years in Student Computing Centres and other high risk environments. 4 years in office areas. |
| Central IT equipment attached to cabinets and racks. | No | Yes, 4+ years | No | Formal inspection by IT staff during system maintenance. |
| Photocopiers/fax machines: NOT hand held (rarely moved) | No | Yes, 2-4 years | No if double insulated - otherwise 5 years | If testing is required it should be carried out during the formal visual inspection. |
| Double insulated equipment: NOT hand held, only moved occasionally, eg fans, desk lamps, slide/data projectors, fixed workshop equipment. | Yes | Yes, 2-4 years | No |  |
| Double insulated equipment: hand held, eg some types of vacuum cleaners, portable drills, other power tools, workshop equipment | Yes | Yes, 6 months – 1 yr | No |  |
| Earthed equipment (Class 1), eg electric kettles, some types of vacuum cleaners | Yes | Yes, 6 months – 1 yr | Yes, 1–2 years | When testing is required it should be carried out during the formal visual inspection. |
| Extension leads | 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 | When testing is required it should be carried out during the formal visual inspection. |
|  |  |  |  |  |
| **Note:** Double insulated equipment (Class 2) is indicated by the square within a square symbol. | | | |  |