

## Portable Appliance Electrical Safety and Testing (EGN 9)

### 1 Introduction

This Electrical Guidance Note (EGN) provide the Requirements and supporting Guidance to ensure that those who use Portable Appliances, or who are responsible for areas in which Portable Appliances are used, are aware of their responsibilities under BBC Requirements and the *Electricity at Work Regulations 1989* and work safely. The document applies to all staff, contractors and casual and part-time persons working on BBC premises or any location at which the BBC is carrying on its business.

A wide variety of equipment is covered by this Guidance Note and can be found in almost every location in every building. It includes:

- TVs, stereo systems
- Editing systems
- IT equipment (computers, printers etc.)
- TV Studio luminaires
- Mains power leads
- Bay-mounted technical equipment (under certain conditions only – see definition below)
- Extension leads (inc. office desk power distributions)
- Cleaning equipment (vacuum cleaners, floor polishers etc.)
- Kitchen equipment (fridges, kettles etc.)
- Office desk equipment (fans, lamps etc)
- Photocopiers, fax machines
- Tools (soldering irons, drills etc.)

This EGN covers the safety aspects of selection, use, testing and maintenance of portable appliances as defined in this document.

This EGN replaces all previous safety documentation with regard to portable appliances, issued by BBC Safety or by the former Engineering Management Safety Committee. It does not however, replace documents issued at Divisional or Departmental level, although such documents must neither conflict with nor set standards which are not as rigorous as those given here.

### 2 Legislation and Definitions

The *Electricity at Work Regulations 1989* do not specifically define a 'portable appliance', but regulation 4 requires that "so far as is reasonably practicable, all systems shall be constructed and maintained, and all activities carried out, such as to prevent danger". 'Systems' in this context include ALL electrical equipment.

Where the BBC either designs, manufactures, imports, modifies or develops portable or transportable electrical appliances, Section 6 of the *Health and Safety at Work Act 1974* imposes duties to ensure that the equipment is safe by design and that this has been verified by means of suitable testing and thorough examination including, where appropriate, provision of a certificate of conformity under Regulation 10 of the *Provision and Use of Work Equipment Regulations 1998*.

A **Portable Appliance** which is subject to this EGN is defined as an item of portable or transportable electrical equipment with a nominal voltage rating not exceeding 230v single-phase or 400v three-phase, and which:

#### Document Control

Document owner	ESWG	Date last modified	01 December 2004
Status	Endorsed	Page	1

- is not permanently fixed to a structure or does not require the use of a tool to enable it to be moved; and
- is either connected to the electrical power supply system by a plug and socket system or receives its power by a flexible cable or cord

This includes extension leads, cord sets supplying portable appliances and office desk power distribution systems.

Technical equipment modules mounted in an equipment bay or rack located in a vehicle, or other area where such equipment, for operational reasons, does not always remain in the same bay or rack, are subject to the requirements of this EGN. Other bay-mounted equipment modules are covered by EGN16. For the purposes of this Guidance Note :

**Managers** are those who manage work which requires the use of portable electrical appliances (as defined) for BBC purposes.

**Users** are those who use portable electrical appliances (as defined) as part of their work for the BBC.

**Procurers** are those who specify and obtain portable electrical appliances for themselves or other BBC departments

**Test Agency Managers** are those who manage or are responsible for an operation which carries out formal inspections and tests on Portable Appliances (as defined).

**Testers** are those who carry out inspections and tests on Portable Appliances (as defined).

**Competent** persons are those who, in the opinion of their manager or supervisor, have sufficient training, knowledge and experience to carry out work to a standard necessary to meet the requirements of this EGN.

### **3 Hazards and risks**

The main hazard associated with the use of portable electrical equipment is electric shock. The consequences to individuals of electric shock can include death, burns or physical harm due to involuntary reflex action. Other hazards include fire caused by overheating and burning of cables and equipment.

Risks of electric shock being caused by the use of Portable Appliances are extremely small if the appliance has been selected appropriately, is used in accordance with the manufacturer’s recommendations and is routinely inspected/tested in line with this EGN. Risks increase significantly if the equipment is subjected to physical damage – sometimes unseen – or is used in an environment not recommended by its maker. Examples of this could include the use of domestic TVs in an outdoor situation, the chance of appliances being splashed with water, plastic casings being exposed to strong radiant heat sources or items of equipment being transported in cars not in their transit cases.

Many hand-held appliances, particularly tools, are available in battery-powered versions. The use of such equipment when possible will significantly reduce the risk of electric shock in these circumstances.

## 4 Responsibilities

### 4.1 Responsibilities of Managers

So far as they relate to matters within their control and as is necessary to prevent injury arising, managers who undertake work with portable electrical equipment, or manage those who do, **must** make arrangements which ensure that :

#### a) Electrical safety responsibilities

electrical safety responsibilities within their workforce are clearly defined and documented

##### [Guidance...]

Those appointed need to be made aware of and understand these responsibilities.

#### b) Competence

all persons they appoint to carry out work where they may be exposed, or who may expose others, to the dangers from electricity are either sufficiently competent to avoid such danger or are appropriately supervised by someone who has such competence

##### [Guidance...]

No-one should be put at risk, or put others at risk, due to a lack of skills, knowledge or experience. Deciding whether a person has the appropriate level of competence to carry out the tasks required by this EGN will require consideration of whether they have adequate :

- technical knowledge of electricity and its hazards, and precautions that are needed
- experience of the task
- understanding of the equipment they are working on
- awareness of their own limitations, when to ask for help and are able to recognise when it is not safe to continue
- understanding of current best practice.

Evidence of competence might include, for example :

- experience of the job, or a related job
- formal practical qualifications such as NVQs, City & Guilds
- appropriate BBC or IEE courses.

All users (see definition) should receive appropriate instruction, and if necessary, training in how and when to carry out a user check (see Appendix 2.1) on the portable appliances they use. This will mean, in effect, everyone in the area concerned. Visual checks should be carried out when any item is moved or damaged, and following any other situation which could affect the safe condition of the appliance. This instruction and training can easily be carried out by providing suitable written material, supported by reminders at team meetings etc.

#### c) Lists of equipment and records

up to date records are kept which demonstrate the measures taken to ensure that electrical equipment is maintained in a safe condition

##### [Guidance...]

#### Document Control

Document owner	ESWG	Date last modified	01 December 2004
Status	Endorsed	Page	3

A list of all Portable Appliances (as defined) that are used in the area or areas under their control should be made and kept up-to-date. This list will usually consist of two parts – the first containing all items which are owned by the department, whose testing is carried out by the department or a test agency appointed by the department for this purpose. In the latter case, the agency should maintain a register of all equipment for which it is responsible under this EGN and provide a copy on request. The second part should contain items which are leased or loaned to the department (e.g. IT equipment, photocopiers etc.) and whose testing is the responsibility of the lending or leasing company. It is the manager’s responsibility to ensure that these items are included in the list and that it is kept up-to-date on a regular basis. For instance, most items of IT equipment are leased for a period less than the recommended inspection time, so this regular turn-over will need to be addressed.

**d) Testing of equipment**

precautions are taken to ensure that electrical equipment is maintained in a safe condition, including being subjected to a regime of maintenance, including inspection, and where appropriate testing, by competent persons at regular intervals

**[Guidance...]**

All Portable Appliances in their area or operation should be inspected / tested at intervals according to their construction and type of use they receive, and labelled accordingly. Details of the information required on such labels are given in Appendix 4. This testing will normally be carried out by the agency appointed by the department for items owned by the department, and by the lending or leasing company for such items. Testing should initially be carried out at the frequencies given in Appendix 3, according to the type of equipment and the environment in which it is used. The test agency or hire/leasing company should carry out inspections/tests of their appliances at the appropriate intervals, but it is the manager’s responsibility to ensure that it is carried out.

New (purchased or transferred) appliances should be inspected/tested and labelled before being used in the area. At the same time details of these items should be entered into the asset register for the area receiving them, and the inspection/test frequency for any transferred items amended if appropriate.

**e) Equipment brought in**

all Portable Appliances brought into an area or operation have proof of having passed an appropriate inspection/test e.g. an in date ‘Electrical safety OK’ label. Where no such proof is provided, e.g. for appliances purchased directly, then the manager must arrange for an appropriate inspection/test to be carried out before the Portable Appliance is used.

**[Guidance...]**

Appliances hired from an approved company will be labelled and can therefore be used after only a visual inspection for transit damage. Personal items such as mobile phone chargers, hair dryers etc. and artistes’ equipment may have to be tested by those responsible for the regular testing of the equipment in the area, and arrangements will have to be in place for this to be carried out without delay when such instances occur. See Appendix 1 for specific examples.

Any leased or hired-in equipment whose ‘next test’ date occurs before the hire or lease period ends should be referred to the hiring or leasing company before that date so that arrangements can be made for its retest in order that it can continue to be used. Retests of such equipment should not normally be carried out by the BBC agency on hired or leased equipment to ensure that the item of equipment does not get entered onto the register for the particular area.

Portable Appliances for use only as dummy ‘props’ which are never to be connected to the mains supply need not comply with this requirement.

All portable appliances brought in to the workplace are subject to the requirements of EGN 12.

**f) Equipment hired out**

all Portable Appliances loaned / leased / hired out on behalf of the BBC on a 'dry-hire' basis (i.e. used or operated by the hirer) are inspected/tested, recorded and labelled before release / handover and at the appropriate intervals thereafter until returned.

**[Guidance...]**

If a particular department dry-hires out equipment as part of its business, then a system should be in place for testing and certification before and during each hire. For other departments, managers should satisfy themselves that equipment lent out for occasional hires (or unofficial 'borrows') is labelled and recorded, and suitable arrangements should be made for this to be done. The hirer should be made aware of the conditions under which the hired items should and should not be used. In a wet-hire situation (e.g. a staffed studio), where the equipment remains under the manager's control, only brought-in items need to be tested before use (see d) above).

Note that adequate information and instructions on the safe use of the appliances should be supplied in order to comply with PUWER regulations.

**g) Faulty equipment**

suitable precautions are taken to ensure that electrical equipment is maintained in a safe condition, including the provision and management of a system which ensures that faulty equipment is removed from service, reported and, where necessary, decommissioned in order to prevent persons being exposed to danger from electricity

**[Guidance...]**

There should be arrangements which ensure that any portable appliance found to be unsafe either as a result of a user check (see Appendix 2.1), a formal visual inspection (see Appendix 2.2) or whose 'next test' date has passed, is withdrawn from use. The appliance should then be rendered unusable and labelled as such. This can be done by enclosing the mains plug in a securely fastened bag, or by covering the mains inlet connector with tape or other secure means, or an appropriate label (see Appendix 4 for label details). It should then be passed to those responsible for the regular testing of the equipment or appliances for test, repair or replacement according to local arrangements.

**4.2 Responsibilities of Users**

So far as they relate to matters within their control and as is necessary to prevent injury arising, users **must** ensure that :

**a) Use of appliance**

electrical equipment is used or operated in a safe manner, commensurate with its intended purpose

**[Guidance...]**

Portable appliances should always be used in accordance with manufacturers and / or local operating instructions / safety arrangements.

**b) User checks**

portable electrical equipment is visually checked prior to use and any faulty equipment or equipment that has passed its 'next test' date is made safe, removed from service and reported in accordance with local procedures (see 4.1f above).

**[Guidance...]**

A glance over your desk or normal work area will immediately show if anything has changed! If this has happened, check that no leads have become strained or damaged, that plugs are fully inserted into their sockets etc. When working on site, or in a temporary or mobile situation, it may be prudent to carry out a visual check each time before starting work. Procedures for user checks of equipment are given in Appendix 2.1. If any item fails this check the supervisor or manager of the area concerned should be informed immediately and the appliance taken out of service and labelled as such with the reason for failure clearly stated.

### 4.3 Responsibilities of Procurers

So far as they relate to matters within their control and as is necessary to prevent injury arising, procurers **must** ensure that :

#### a) Selection of equipment

electrical equipment is suitably selected, having due regard to its purpose, location and expected conditions of use

**[Guidance...]**

A significant amount of discussion will usually be necessary between the procurer and the user and his manager to ensure all risks are understood and taken into account when the particular appliance is specified. Knowledge of particular problems with appliances in common use in the environment concerned should be kept up-to-date by the procurer and used to assist in the selection of equipment. BBC Procurement maintains a catalogue of items generally used throughout the Corporation and will provide advice on the selection of appliances on request.

Care should be taken when selecting equipment designed for domestic purposes, as they are often not strong enough to withstand the more arduous conditions of use in the workplace. Electrical appliances used in the broadcasting environment are often exposed to adverse conditions (e.g. outdoors, in public areas, underwater, at altitude, regularly transported, etc.) where danger could arise if it is not constructed or protected to withstand such exposure. Those selecting equipment should be aware of the index of protection (IP rating) required for the environment concerned (as set out in BS EN 60529:1992).

Confirmation that an appliance conforms to internationally recognised standards by reference to the markings on the case or in accompanying literature can significantly reduce the time needed to bring a new appliance into use and ensure compliance with the requirements of EGN 12.

#### b) Pre-delivery inspections and testing

wherever possible, portable appliances are appropriately inspected / tested and labelled before being supplied to the user department.

**[Guidance...]**

Where this is not practicable, the appropriate manager should be informed so that he can ensure that the appliance is inspected / tested before use.

#### Document Control

Document owner	ESWG	Date last modified	01 December 2004
Status	Endorsed	Page	6

**4.4 Responsibilities of Test Agency managers**

So far as they relate to matters within their control and as is necessary to prevent injury arising, test agency managers **must** make arrangements to ensure that :

**a) Test equipment**

they provide and maintain equipment appropriate for the testing of portable appliances.

**[Guidance...]**

Test equipment should meet the specification given in Appendix 5. Additional information and guidance will be found in the publication: ‘Code of Practice for In-service Inspection and Testing of Electrical Equipment’ (IEE).

**b) Inspections and testing**

equipment and appliances for which they are responsible are re-inspected and / or re-tested at the appropriate frequencies.

**[Guidance...]**

See Appendix 3 for recommended initial frequencies for checks, inspections and tests on appliances. These frequencies can be changed following experience gained from inspections/tests on the appliances. Test Agency managers should use their experience and judgement to interpret failure statistics from inspections/tests to adjust the frequencies of inspections/tests required for any particular type of appliance. Record of failures must be kept to establish and justify any changes (see c) below). If an increase in the frequency should be found necessary for a particular item to ensure its continuing safety in the environment in which it is being used, then an assessment of the continuing use of that particular item, or the environment in which it is being used, should be made, in conjunction with the manager of the user area concerned.

See Appendix 2 for details of inspections and tests to be carried out.

**c) Records**

up to date records are kept which demonstrate the measures taken to ensure that electrical equipment is maintained in a safe condition

**[Guidance...]**

Test agency managers should establish and maintain records of formal visual inspections and tests for all equipment and appliances for which they are responsible as a test agency. Records of reasons for inspection/test failures should also be kept to justify the inspection/test frequencies used for any particular type of appliance. Copies of the results of the inspections and tests should be made available to managers of the user areas, so that they can discharge their responsibilities under the requirements of this EGN.

**d) Register of repaired equipment**

establish and maintain a register of all equipment or appliances repaired.

**[Guidance...]**

Suggested forms are given in the IEE publication ‘Code of Practice for In-Service Inspection and Testing of Electrical Equipment (2001)’. Electronic equivalents are acceptable.

**4.5 Responsibilities of Testers**

So far as they relate to matters within their control and as is necessary to prevent injury arising, testers **must** :

a) **Testing arrangements**

be aware of the different test procedures necessary for the various types of appliance they will be called upon to test, and the appropriate test equipment required to do this.

**[Guidance...]**

The importance of using the correct test procedures for the different appliances encountered should be stressed, as damage can be caused to some equipment if the wrong test procedure is used. Testers should be aware of the manager’s requirements for assessing competence in this regard (see section 4.1b).

**5 Relevant Legislation & Guidance**

The following pieces of legislation are relevant to this subject :

Health and Safety at Work Act (HSAW)

Electricity at Work Regulations 1989

Electricity at Work Regulations (NI) 1991

Management of Health and Safety at Work Regulations 1999

Provision and Use of Work Equipment Regulations 1998 (PUWER)

Maintaining portable and transportable electrical equipment (HS(G)107)

IEE Code of Practice for In Service Inspection and Testing of Electrical Equipment

BBC Electrical Guidance Notes

## Appendices

### Appendix 1 Examples for guidance to managers in particular situations

#### 1 Basic Office environment

In a typical office, all the electrical appliances that are covered by this EGN (see example list below) will probably be either leased (IT equipment, photocopiers etc.), hired (TVs, stereo systems etc.) or owned by the department but subject to an SLA for service and testing. Managers should ensure that all items used in their area are inspected/tested according to the 'next test' dates on the labels, and that items brought into their area are not used before being inspected/tested, or have adequate documentation - e.g. an in-date 'Electrical Safety OK' label - to satisfy them that they satisfy this EGN. In the latter case for double-insulated personal items, a formal visual inspection (see Appendix 2) should be sufficient

Example equipment list (office environment) :

- IT equipment (PCs, printers, scanners, monitors etc.)
- Photocopiers, fax machines
- Desk equipment (fans, task lamps etc.)
- Floor equipment (uplighters, humidifiers etc.)
- Kitchen equipment (microwaves, kettles, coffee makers, fridges, water chillers)
- Desk mains distribution systems
- Extension leads/blocks & office desk power strips
- Personal equipment (radios, walkmans, phone chargers etc.)

Mains distribution strips and office desk power distribution systems should not be daisy-chained (i.e. one desk or strip being powered from another). The risk of electric shock is at its greatest when this practice is carried out, as has been shown by accident records. Additional fixed mains sockets should always be installed to avoid daisy-chaining.. Desk power distribution systems should comply with BS6396, which imposes standards different from those for mains extension leads. Wherever possible mains extension leads should always be of the type with moulded-on ends. Temporary installations may use extension leads up to 25m long, or longer if supplied via a RCD (safety breaker). BBC Broadcast Infrastructure Report 1993/07 gives guidance on the selection and use of long extension leads.

#### 2. Location recording site

On location, it is quite possible that equipment designed for use in an office or home environment will be used for monitoring, wardrobe use, hairdressing etc. Particular care needs to be taken in these situations when floors can be wet, roofs can leak, extension cables are used and temporary lighting systems are in place.

Examples of appliances that need to be assessed for this environment include :

- Domestic style TV sets
- Powered loudspeaker systems
- Hair styling equipment (driers, tongs etc.)
- Portable editing systems
- Kitchen equipment (kettles, toasters, coffee makers etc.)
- Extension cables.

Before connecting any equipment to a mains supply on location, a simple tester (Martindale or equivalent) should always be used to check for the presence and correct polarity of live, neutral and

#### Document Control

Document owner	ESWG	Date last modified	01 December 2004
Status	Endorsed	Page	9

earth connections. Note that these testers are basic devices and do not provide a comprehensive check on the supply. However they should be adequate when connecting to a permanent (i.e. not temporary) supply in a building. For more guidance see EGN 7 (Power distribution and rigging on Location and outside permanent Studios).

**3. Broadcast Studio**

In this example, portable appliances covered by this EGN will include some or all of those mentioned in the Basic Office Environment above. In addition, some or all items from the following list will be found:

- Artistes brought-in kit
- Floor monitors (audio & video)
- TV studio luminaires
- Portable effects units
- Electrically operated props

**4. Dry-hire suppliers**

The main criteria for dry hire suppliers are to ensure equipment is inspected / tested, labelled and recorded before hire, and a system is in place to inspect / test items whose next test date is reached before the end of their hire period. It is acceptable for an inspection/test to be done on return of the appliance from hire if they are stored under suitably managed conditions where they are unlikely to incur damage during storage.

**5. Maintenance rooms**

Equipment used in engineering maintenance areas is subject to significant adverse handling conditions, and the requirement for a user check on certain appliances from the list below each time they are used should be considered.

- Soldering irons
- Hand power tools
- Portable test equipment (test generators, oscilloscopes)

Refer to EGN 4 (Isolating Transformers) for safety requirements when using isolating transformers.

**6. Portable Appliance testing agencies**

A significant responsibility attaches to this activity to ensure compliance with all of the relevant legislation and codes of practice. The main areas of responsibility are to :

- keep a register of all items for which responsibility for inspection and testing is held
- inspect / test items at the frequency appropriate for each appliance in its location and for its particular usage
- label all inspected/tested items giving details of next test date
- ensure faulty items are not returned to use until they have been repaired & retested
- review inspection / test results for all types of appliance in their environments to ensure testing frequencies are correct.

Additional information and guidance will be found in the following publications :

Document Control			
Document owner	ESWG	Date last modified	01 December 2004
Status	Endorsed	Page	10

HS(G) 107 'Maintaining portable and transportable electrical equipment' (HSE Books)  
 'Code of Practice for In-service Inspection and Testing of Electrical Equipment (IEE)

**7. Construction sites**

Portable Appliances used on construction sites are subject to the same testing requirements as all other items. The conditions under which they are used will often require that inspections and tests are carried out at much shorter intervals, and managers may decide that a visual check should be carried out every day at particular sites before an appliance is used.

**Appendix 2 Visual Checks, Inspections and Tests**

Full guidance on procedures is available in the IEE publication 'Code of Practice for In-service Inspection and Testing of Electrical Equipment (2001)'.

**2.1 User checks**

To be carried out by all persons who use portable appliances, by following the notes below.

Use your eyes! This is the simplest, quickest and most effective check on the Portable Appliances in your workplace. Remember Portable Appliances include mains leads and extension leads. First check that the appliance is working correctly. Remove the mains plug from its socket.

First check the date on the tested label, then look for signs of:

- Damage, e.g. cuts and abrasion (apart from light scuffing) to the cable covering
- Damage to the plug, e.g. the casing is cracked or the pins bent
- Non-standard joints including taped-up joints in the cable
- The outer covering (sheath) of the cable not being gripped where it enters the plug or appliance. Look to see if the coloured insulation of the internal wires (blue, brown, green/yellow) is showing
- Equipment that has been used in conditions where it is not suitable e.g. a wet or dusty workplace
- Damage to the outer cover or casing of the appliance or obvious loose parts or screws
- Overheating (burn marks or staining)

If all is in order, plug in and check the appliance is working correctly. If not, or the appliance does not work properly, you should immediately follow your locally advised procedure or tell your supervisor or manager. You should also take steps to ensure that the appliance cannot be used by labelling it clearly as faulty and as a minimum enclosing its mains plug in a suitably labelled bag.

**2.2 Formal visual inspection**

Only to be carried out by competent persons.

This should include all elements of the user check given in Appendix 1.1 above, plus the removal of the plug cover to check that:

- A fuse is being used (not a nail or piece of wire) and it is of the correct rating for the cable to which the plug is connected
- The cord grip is holding the cable sheath firmly and the cover retaining screws are effective
- The wires are connected to the correct terminals in the plug
- The plug terminal screws are tight

- There is no sign of internal damage, overheating or entry of liquids, dust or dirt.

In the case of an extension lead with non-moulded-on ends, the cover of the socket strip should also be removed and the above checks carried out.

In the case of a lead with moulded-on ends, only the plug fuse can be checked from the above list.

**2.3 Electrical safety test**

Only to be carried out by competent persons. See 4.5 a) regarding use of correct test procedures.

This test should be carried out with a PAT tester conforming to the specification given in Appendix 5, and the following tests should be performed:

**Class I equipment** (all metal parts earthed, 3 core mains lead)

- Earth bond test (using appropriate current limit) - **if not possible, then**
- Earth screen continuity test (where test of safety earth only available *via* signal connector)
- Insulation resistance test or Earth leakage (touch current) test
- Load/functional test (where appropriate)

**Class II equipment** (Double insulated symbol – 2 concentric squares, usually 2 core mains lead)

- Insulation resistance test or touch current (earth leakage) test
- Load/functional test (where appropriate)
- Earth screen continuity test (only when testing a functional earth via a signal connector)

**Mains leads, extension leads**

- Polarity
- Earth continuity (to each outlet in the case of extension strips and desk distributions)
- Insulation resistance

Note that these leads do not need to comply with the 0.1Ω limit, which is for items of equipment. The measured earth conductor resistance will depend on cable size, voltage drop and fuse rating. The requirement is that the fuse will break within the required disconnection time and this will depend upon the total earth loop impedance, which includes source, cable and equipment. A full investigation, giving suitable guidance as to what is safe and what is not, is to be found in TE & PS (now Broadcast Infrastructure) Report 1993/07.

**Office desk power distribution systems**

- Polarity
- Earth continuity
- Insulation resistance

See BS6396 for details of tests and limits applicable

If an appliance which is not marked as Class II has a 3 core (single phase) supply connection and has no means of access to any earthed metal parts connected to the protective earthing conductor (earth wire) it should, at the tester’s discretion, be tested as a Class II appliance. Refer to an Engineer if

Document Control			
Document owner	ESWG	Date last modified	01 December 2004
Status	Endorsed	Page	12

further guidance required.

Document Control			
Document owner	ESWG	Date last modified	01 December 2004
Status	Endorsed	Page	13

Appendix 3: Recommended initial test frequencies for appliance type, usage & location

Equipment/Environment	User Checks	Formal Visual Inspection	Combined Inspection / Testing		
			Offices*	Public Areas*	Industrial Areas*
Battery operated: (less than 20 volts)	No	No	No	No	No
Extra low voltage: (less than 50 volts AC) e.g. telephone equipment, low voltage desk lights	No	No	No	No	No
Information Technology: e.g. desktop computers, VDU screens, printers, scanners	No	1 year, and every time relocated	No#- If Double Insulated** -Otherwise:-		
			3 years	2 years	1 year
Rarely moved office appliances e.g. photocopiers, fax m/cs, TVs, VCRs, power supply units for LV equipment	No	1 year	No#- If Double Insulated** -Otherwise:-		
			3 years	2 years	1 year
Technical kit on shelves, tables, desks (i.e not mounted in bays)	No	1 Year	3 years	2 years	1 year
Hand held double insulated** appliances, e.g. some floor cleaners, polishers etc.	Yes	1 year	No#	No#	No#
Hand held earthed equipment (Class 1): e.g. electric kettles, some floor cleaners	Yes	1 year	2 years	1 year	1 year
Detachable cordsets and extension leads	Yes	6 months high use/external areas, 1 year elsewhere	2 years	1 year	1 year
Office furniture cabling	Yes	1 Year, and every time relocated	2 years	1 year	1 year
Hand Held Tools, e.g. drills, grinders, mains soldering irons	Yes	3 monthly including leads	6 monthly	6 monthly	6 monthly
Hired out equipment (dry hire)	Yes		Before## or after every hire		

\*Offices: includes edit suites, newsrooms, studios, cubicles, control rooms etc.

\*Public areas: includes all areas to which the public have free and unrestricted access. Also included are those areas to which the public are admitted as audience or on guided tours but are not individually supervised. This does not include artistes, performers, invited guests etc.

\*Industrial areas: includes workshops, maintenance areas, heavy equipment store areas.

#Insulation resistance/leakage current and functional tests on Class II appliances with no exposed metal parts are at the discretion of the testing agency manager.

##Testing before hire is not required if the relevant appliances are normally tested after hire and are stored under suitably managed conditions where they are unlikely to incur damage during storage.

\*\* Double Insulated: Appliances which do not have an earth terminal or lead, and in which protection against electric shock is provided by two separate forms of insulation. This type of appliance usually has the words 'Class II' or a double concentric square marking on the case.

Document Control

The above recommended inspection/test frequencies can be changed in the light of experience gained following inspections / tests on appliances. Testing agency managers should use their experience and judgement to decide what change is made. Records of inspection/test failures for individual or groups of appliances must be kept to justify such changes. (See 4.4c for record keeping).

**Appendix 4 Labels**

The exact format and layout of ‘safe to use’ and ‘do not use’ labels is not specified, and is at the discretion of the testing agency. The minimum required information on each type of label is given below. Labels should follow the general conventions of the H&S (Safety Signs and Signals) Regs 1996 as given in the HSE publication ‘The Health and Safety (Signs and Signals) Regulations 1996 – Guidance (L64)’.

**1. ‘Safe to use’ label**

- Text – ‘Electrical Safety OK’
- Text – Testing Agency name and contact details
- Text – ‘Appliance No. -----’ (if not on a separate label)
- Text – ‘Retest before end <mm/yy>

Minimum size 40 x 25 mm, background colour White. The label size may be reduced if a separate label is used for the appliance number. These will usually be provided by the testing agency, and will be fixed to the appliance as part of the regular inspection/test procedures.

**2. ‘Do not use’ label**

- Text – ‘Electrical Safety Check’
- Text – ‘Do No Use – Unsafe’
- Text – ‘Reason -----’
- Text – ‘Failed by -----’
- Text – ‘Extension ----- Date -----’

Minimum size 50 x 40 mm, background colour Red. A supply of these labels should be obtained for use by managers, but a lack of these should not delay the clear labelling of faulty equipment.

**Appendix 5 Test Equipment specifications**

All testing is most conveniently carried out by a purpose designed portable appliance tester (PAT Tester), which should be calibrated annually.

The test equipment must be able to carry out the tests given in the IEE CoP Part 1 Section 10.

Some of the above tests are inappropriate for certain appliances. Testers must use their competence and experience to judge which tests are used and to interpret the results obtained. Inappropriate tests can damage equipment!