

## OHS INFORMATION SHEET No. 33: INSPECTION, TESTING, TAGGING & REPAIR OF ELECTRICAL EQUIPMENT

June 2009

The purpose of this information sheet is to ensure the inspection, testing and tagging of electrical equipment used at Monash University is conducted in accordance with the requirements of *AS/NZS 3760:2003 In-service safety inspection and testing of electrical equipment* and the Occupational Health and Safety Act (2004).

This information applies all electrical equipment used on the Australian campuses of Monash University and within Monash controlled entities. It covers University sanctioned activities by staff and students of Monash University, contractors, visitors, hire companies or any other person or agency associated with university activities.

### ABBREVIATIONS

<b>EPOD</b>	Non-fixed, electric portable outlet device (powerboard)
<b>GPO</b>	General purpose outlet
<b>RCD</b>	Residual current device

### 1. WHO CAN TEST, TAG & REPAIR APPLIANCES?

- 1.1 All tagging and testing must be carried out by an approved person. An approved person may be a licensed electrician or a person who has completed the competency unit: *Conduct in-service safety testing of electrical cord assemblies and cord connected equipment*.
- 1.2 Only a qualified person may repair faulty electrical equipment. A qualified person shall be either:
- a licensed electrician approved to work on the electrical installation and electrical appliances;
  - an electronics technician approved to work on electrical appliances connected to or capable of being connected to the electrical installation;
  - a tradesperson holding a restricted electrical licence (air conditioning mechanic, plumber, mechanical fitter, electrical fitter) approved to work on restricted electrical appliances and their connection to the electrical installation according to the specific conditions of their licence;
  - such other person approved to work on electrical appliances by way of demonstration that their knowledge and experience is sufficient for them to do so safely or;
  - such other person approved to undertake service repair of electrical appliances.
- 1.3 Models that can be used to carry out testing and tagging of electrical equipment include:
- **TRAINING A STAFF MEMBER**  
Selection by the area manager of an appropriate staff member to be trained in the competency unit. The area may purchase or hire testing equipment.
  - **FACILITIES & SERVICES STAFF**  
The area raises a BEIMS request to Facilities and Services to organise a contractor to test and tag the equipment.

- **CONTRACTOR**

The area independently contracts a company to test and tag the equipment.

## **2. FREQUENCY OF TESTING AND TAGGING**

The frequency of testing relates directly to the environment in which the equipment is used, the level of hazard and the degree of abuse to which the equipment is typically exposed. The frequency of testing is, in most cases, determined by the approved person.

A documented hazard assessment taking into consideration any relevant legislative requirements or guidelines must be conducted if deemed necessary to deviate from the standard testing frequency. A copy of this assessment should be kept with the records of testing.

For indicative purposes, electrical appliances shall be inspected and tested:

- at intervals not exceeding those in Table 4 of *AS3760:2003* (a tolerance of two weeks is acceptable). A summary of Table 4 of *AS3760:2003* is provided below
- before being returned to service or after repair or servicing, which could have affected the electrical safety.

## **3. PRIORITIES FOR TESTING**

The following priorities are proposed for the implementation of testing of electrical equipment.

*Note: New equipment does not need to be inspected or tested within 12 months of purchase, as the supplier is deemed responsible for the initial electrical safety of the new item. However the responsible person shall ensure that the equipment is tested and tagged during the next testing schedule for their area.*

### **3.1 EQUIPMENT IN USE**

- 3.1.1 Laboratory/studio/workshop areas with use of electrical equipment by undergraduate and/or postgraduate students; electrical equipment in use in student residential accommodation; electrical equipment used in wet areas such as kitchens etc.
- 3.1.2 Laboratory/studio/workshop areas teaching facilities, lecture theatres, etc with use of electrical equipment.
- 3.1.3 Computer laboratories; multi-use areas such as libraries, sporting facilities, etc.
- 3.1.4 Office equipment.

### **3.2 EQUIPMENT NOT IN USE**

- 3.2.1 Only equipment in use needs to be tested;
- 3.2.2 Equipment not in use and/or out of testing date should have an isolation tag to indicate tagging is required and must be tested prior to use.

## **4. APPLIANCES BROUGHT IN FROM HOME**

Electrical appliances bought in by contractors or from home for use on a Monash site are subject to the same testing and tagging procedure for appliances owned or leased by the University. Appliances should be tested and tagged prior to their use on university premises.

While there is no requirement to test and tag personal laptops, staff and students are encouraged to have their laptops tested and tagged using an approved person or company.

In both situations above the testing and tagging is the responsibility and the expense of the owner.

## 5. RECORDS OF INSPECTION AND TESTING

<b><u>Record to be kept by</u></b>	<b><u>Records</u></b>	<b><u>To be kept for:</u></b>
Academic/administrative unit/controlled entity	Records of inspection and testing of electrical equipment, including: <ul style="list-style-type: none"> <li>• a register of all electrical equipment; a record of formal inspection and tests;</li> <li>• a repair register; and</li> <li>• a record of all faulty equipment.</li> </ul>	5 Years

### APPENDIX 1: TABLE 4 (AS3760:2003)

Type of environment and/or equipment	Interval between inspection and tests				Cord sets and power boards
	Class of equipment		RCDs		
	Class I (Protectively earthed)	Class II (Double Insulated)	Push button test by user (Portable/Fixed)	Operating time and push button test (Portable/Fixed)	
1. Workshops, places of repair, manufacturing, assembly, maintenance or fabrication	6 months	12 months	3 months / NA	12 months / NA	12 months
2. Environment where the equipment or flexible supply cord is subject to flexing in normal use OR is open to abuse OR is in a hostile environment	12 months	12 months	3 / 6 months	12 / 12 months	12 months
3. Environment where the equipment or supply cord is NOT subject to flexing in normal use and is NOT open to abuse and is NOT in a hostile environment	5 years	5 years	3 / 6 months	2 / 2 years	5 years
4. Equipment used for commercial cleaning	6 months	12 months	3 months / NA	12 months / NA	12 months
5. Repaired, serviced and second hand equipment	After repair or service which could affect electrical safety, or on reintroduction to service				

Note 1 The actual sub environment in which the equipment is located determines the row for the environment to be used in Table 4, eg, A computer within a non-hostile environment in an office within a workshop or laboratory would attract a test/inspection action in accordance with Row 3.

Note 2 Regulatory authorities, other standards, workplace safety requirements or manufacturer's instructions may specify intervals appropriate to particular industries or specific types of equipment.

Note 3 Only equipment in use needs to be tested – equipment that is used irregularly can be tested immediately prior to use.

Note 4 All workshop hand tools should be double insulated.

Note 5 Unique experimental equipment: testing regime and frequency to be determined by work area for each case.

Note 6 Fixed/ stationary equipment connected by a cable or flexible cord which is not flexed in normal use or exposed to damage nor in a hostile environment, is not normally considered to represent a hazard sufficient to warrant routine in-service electrical safety testing. However, where the flexible cable or cord is flexed on equipment which is moved for restocking, maintenance, cleaning, etc, in-service testing is considered to be required.