1. Definitions

**Access Permit**
To be issued by the Office of Facilities Management for any High Voltage or Substation work.

**Authorised Person**
Only person, authorised by the Manager, Electrical Engineering, to undertake Electrical Work and who have a current and appropriate electrical worker’s licence from the Electrical Licensing Board of Western Australia and/or is duly Authorised under the Electrical (Licensing) Regulations 1991 can undertake works as defined by the legislation.

Where an Electrical Worker is not employed directly by the University, they must be associated with an Electrical Contractor in order to perform electrical work on University premises.
Class I equipment
Equipment in which protection against electric shock does not rely on basic insulation only, but which includes an additional safety precaution in that accessible conductive parts are connected to the protective earthing conductor in the electrical installation in such a way that accessible parts cannot become live in the event of a failure of the basic insulation.

Class II equipment
Equipment in which protection against electric shock does not rely on basic insulation only, but in which additional safety precautions, such as double insulation or reinforced insulation are provided, there being no provision for protective earthing or reliance upon installation conditions.

Clear Access
Unimpeded access to designated area, with a minimum clearance of 900mm. from opened doors.

Competent Person
Means a person who has acquired through training, qualification or experience, or a combination of those things, the knowledge and skills required to do that thing competently.

Construction Site
Means a workplace at which construction work is done and includes any adjoining area where plant or other materials used or to be used in connection with that work are located or kept and over which the main contractor has control for the purpose of doing the construction work.

Cord sets
An assembly of a plug intended for connection to a mains socket outlet, a sheathed flexible cord and a cord extension socket, or appliance connector.

Curtin University
Curtin University of Technology including any of its campus locations.

Danger TAG
Means an accident prevention tag as referred to in section 5 of AS 1319 that is in the form of a danger sign within the meaning of that Standard.

Duty of Care
As detailed in Section 19 Occupational Safety and Health Act 1984

Electrical Accident
Means an accident:
- That results from a sudden discharge of electricity or that otherwise has, or is likely to have, an electrical origin; and
- That causes, or is likely to cause, danger to life, a shock or injury to a person or loss of or damage to property.

Electrical Equipment/Appliance
Means a device in which electrical energy is consumed or substantially changed in character by conversion into heat, sound, motion, light or otherwise may be classified as:
- **Fixed/stationary** – an appliance which is in normal use, fastened to a support, or is otherwise secured in a specific position, or is of such size or function as to be difficult or unlikely to be moved from one place to another, e.g. large workshop machinery (lathe, band saw, etc.) oven, refrigerator;
- **Movable** – an appliance that can be moved readily from one place to another by unplugging from a socket outlet,
but that is not moved during operation e.g. cathode ray oscilloscope, electronic balance, personal computer, printer, etc;

- **Hand-held** – portable equipment that is intended to be held in the hand during normal use e.g. electric drill, angle grinder (excludes battery operated equipment); and

- **Portable** – equipment that is connected to an electrical supply and intended to be moved when in use e.g. electric arc welder, electric high pressure water cleaner.

**Electrical Shock**

Contact of a human body with any source of voltage high enough to cause harm. Generally Voltages exceeding 50 Volts AC or 120 Volts DC (Ripple free) and caused through Direct Contact or Indirect Contact with the supply voltage.

- **Direct Contact** - Contact with a conductor of conduction part that is live in normal service;

- **Indirect Contact** - Contact with a conductive part that is not normally live but has become live under fault conditions (because of insulation failure or some other cause).

All incidents that involve an electric shock are a mandatory item for reporting.

**Electrical Contractor**

Means a person who carries on business as an electrician but does not include an electrician when acting in the capacity of an employee of an electrical contractor.

**Electrical Installation**

Electrical equipment installed for the purposes of conveyance, control, measurement or use of electricity, where electricity is or is to be supplied for consumption.

**Electrical Supply - Voltage**

Differences of potential normally existing between conductors and earth as follows:

- **Extra-low voltage**: Not exceeding 50 V a.c. or 120 V ripple-free d.c.;

- **Low voltage**: Exceeding extra-low voltage, but not exceeding 1 000 V a.c. or 1 500 V d.c.; and

- **High voltage**: Exceeds Low voltage

**Electrical Work**

Work on electrical machines or instruments, on an electrical installation or on electrical appliances or equipment to which electricity is supplied or intended to be supplied at a nominal pressure exceeding 50 volts alternating current or 120 volts ripple free direct current whether or not the thing on which the work is performed is part of, or is connected to or to be connected to, any distribution works or private generating plant and, where work is performed on any appliance, whether or not electricity is supplied or may be supplied thereto through an electric plug socket or socket outlet.
Electrical Worker  A person who carries out electrical work and/or is mandated to do so in accordance with: Electricity (Licensing) Regulations 1991.

Electrical Incident  NO injuries are sustained, but precautionary medical treatment is sought due to possible secondary issues in the ensuing 24 hours. Includes near misses

Hazard  Anything that may result in injury or harm to the health of a person.

Hostile Environment  A workplace where electrical equipment or flexible supply cord may, in its normal use be subject to conditions that are likely to result in damage.

Isolated  The condition in which equipment or plant is placed when all sources of potentially damaging energy are prevented or blocked by the operation of an isolator.

Isolator  A device that physically prevents the transmission or release of energy.

Non-Hostile Environment  A dry, clean workplace where the electrical equipment or flexible supply cord, in its normal use, is not subject to conditions that are likely to result in damage.

Out of Service TAG  A tag used to prevent damage to plant and equipment, and/or prevent people from using or operating equipment that is faulty and in need of repair.

Personal Lock  a lock identified as a personal lock and being used by the Authorised Person for personal protection

Residual Current Devices (RCD)  An electrical safety device specially designed to switch electricity off when electricity “leaking” to earth reaches a pre determined level that may be harmful to a person.

Safety Observer  A person specifically assigned the duty of observing and warning against unsafe approach to equipment and other potential hazards. A safety observer shall be appropriately trained to initiate any emergency procedures associated with the task.

SCC  Services Coordination Centre

Socket Outlets  A device for fixing or suspension at a point, and having contacts intended for making a detachable connection with the contacts of a plug.

2. **Minimum Standards**

*These minimum standards are compulsory for all University In-House Electricians to ensure safety is maintained and legislative requirements are met. Section 2 shall be treated as a guide to assist with meeting these standards.*

2.1 All electrical incidents and hazards shall be reported **immediately** to the Manager, Electrical Engineering, or nominee. The incident or hazard shall be recorded on the University’s **online incident/hazard reporting system** within 24 hours.

2.2 Any person receiving an electrical shock shall undergo a medical assessment by a qualified medical practitioner.
2.3 All electrical appliances and RCDs shall be maintained to ensure a duty of care under Section 19 of the Occupational Safety and Health Act 1984 is complied with.

2.4 All hand-held or portable appliances shall be used in conjunction with RCD protection.

2.5 Sufficient numbers of socket outlets shall be available to ensure safe operation of electrical equipment. Specifically, they shall:
   - Have access for any switches accessed frequently;
   - Be positioned such that power and extension cords do not create a Hazard;
   - Appropriate cable management for appliances can be achieved.

2.6 When power boards and/or extension cords are required:
   - A maximum of one power board and one extension cord to be used for any one socket outlet;
   - Double adaptors shall not be used.

2.7 Power boards shall be individually switched or fitted with safety shuttered where:
   - They are used in a Hostile Environment;
   - Electrical equipment is frequently plugged in and out.

2.8 Any faulty or non functioning devices or equipment shall be Tagged Out Of Service" and reported to the persons Supervisor or Manager to arrange repairs.

2.9 Working on ‘live’ electrical installations is prohibited.

2.10 An Access Permit must be obtained from the Office of Facilities Management prior to commencing electrical work on, or in the vicinity of any high voltage apparatus within University grounds.

2.11 No unauthorised work shall be carried out on, or in the vicinity of Overhead Electric Wires as per the Occupational Safety and Health Regulations 1996.

3. Standards of work

All electrical work shall be carried out in accordance with the requirements of the Electricity (Licensing) Regulations 1991, 49(1).

Where any Code or Standard is inconsistent with the West Australian Requirements, the latter prevails to the extent of the inconsistency.

4. Electrical log book

An exemption, in writing, has been granted by the Director of Energy Safety (or delegate), from the requirement to submit a minor works notice for electrical installing work performed by Electrical Workers at Curtin University.

In accordance with legislation, electrical log books, located at the Facilities Management Office are provided to record details of all electrical installation work carried out by Curtin Electrical Workers.
5. Considerations prior to ‘Live’ Electrical work

It is Curtin’s policy that working on ‘live’ electrical installations shall not be undertaken by electrical workers. An exemption to this exists in respect of:

- Fault finding;
- Commissioning; and
- Testing

A ‘risk assessment’ shall be undertaken before any of the above tasks are to be carried out; and

Where live working is unavoidable, a safety observer shall be present at all times.

**NOTE:** The safety observer shall be familiar with and be able to initiate any emergency procedures associated with the task.

In addition to the above and for the purpose of live working the following shall apply:

- Full length Cotton based overalls with sleeves rolled down, must be worn;
- Suitable eye protection /face shields shall be work;
- Suitable rated gloves for the works being undertaken shall be work;
- Other Personal Protective Equipment (PPE) shall be used as appropriate;
- Rings, metal wristbands and neck jewellery shall be removed;
- Adequate insulating barriers are installed on adjacent parts;
- Tools and equipment are appropriate for the work to be carried out.

6. Operation of High Voltage equipment

In accordance with the Electricity Act 1945, all personnel operating high voltage equipment must be authorised in writing to do so. A copy of the authorisation must be forwarded to the relevant Network Operator as defined by the Curtin University and Western Power Customer Switching agreement.

a) High voltage switching

To ensure the safe operation of High Voltage electrical equipment the following conditions shall be met by Curtin:

- Authorised "high voltage" operators training by a recognised high voltage training provider shall be given to each High Voltage Switching Operator;
- Only suitably trained and authorised High Voltage Switching Operator shall be permitted to operate High Voltage installation within Curtin University;
- Written switching programs and isolation procedures shall be prepared and checked by other approved switching operator prior to switching being undertaken.

b) HV personal protective equipment

The following personal protective equipment shall be worn when carrying out high voltage switching operations.

Appropriately rated personal protective equipment including but not limited to:
• Full Length Overalls;
• Full Fault rated Flash suit including leggings;
• Fault Rated face shield and helmet;
• Appropriate High Voltage rated gloves and over gloves.

Authorised Operators must inspect test equipment, tools and safety equipment to check their serviceability before use.

7. Competence verification

In order to satisfy the requirements of the Electricity (Licensing) Regulations 1991, Regulation 49, Electrical Workers shall be assessed to ensure their knowledge of Relevant Australian Standards and the West Australian Electrical Requirements (WAER). The Electrical Worker shall be assessed on the following and a record of the assessment will be recorded on the employee’s personal file:

a) Competency in the areas of electrical isolation.

b) Competency in the areas of checking and testing.

c) Employees will be monitored, by their senior electrical supervisor to ensure competency in the area of general safe work practices.

The Manager, Electrical Engineering or a senior electrical supervisor shall induct new employees in the contents of Curtin’s Electrical Policy and related procedures. The employee will be required to read and abide by Curtin’s Electrical Policy

If required, specific job based training will be provided by Curtin University. A record of training outcomes will be recorded on the employee’s personal file.
8. Guidelines

The Office of Facilities Management shall be responsible for the maintenance, alteration, addition, testing, and repair of Electrical Installations and shall maintain a register of all, Electrical Contractors and Electrical Workers on campus associated with the maintenance repair off or addition to Curtin’s Electrical Installations.

All staff, students, contractors and visitors are strictly prohibited from working on, or instructing any person to work on, electrical installations and electrical appliances or equipment unless suitably qualified and mandated to do so in accordance with the: Electricity (Licensing) Regulations 1991.

Table 1 Guidelines for all Curtin In-House Electricians and Office of Facilities Management for the implementation of the ‘minimum standards’

<table>
<thead>
<tr>
<th>Minimum Standard</th>
<th>All In-House Electricians</th>
<th>Office of Facilities Management</th>
</tr>
</thead>
</table>
| 8.1 All electrical accidents, incidents and hazards shall be reported | Report all electrical incidents and hazards:  
  - Immediately to the Manager Electrical Engineering, on extension 2020.  
  - Within 24 hours complete the online incident/hazard reporting system, refer guidelines for reporting and investigation requirements are contained in the EduSafe “Making the Workplace Safe” document. | • Report all electrical accidents to the Office of Energy  
  • Immediately investigate all reported electrical incidents and hazards to ensure safety. |
| 8.2 Any person receiving an electrical shock | • For all emergencies follow the University’s Emergency Procedure  
  • Refer to an approved medical practitioner after receiving any electrical shock for a medical assessment. Support is available through the University’s Health Services on extension 7345. | • Ensure medical treatment sought. |
| 8.3 Hand-held or portable appliances | Use hand-held portable Electrical Equipment/Appliance/Apparatus:  
  - With power supplied through an RCD protected socket outlet. | • Ensure all socket outlets are protected by non-portable RCDs in accordance with Regulation 3.60 of the OS&H Regulations 1996 (WA), and that these outlets are clearly signed as fitted with RCD protection. |
| 8.4 Inspection and testing of electrical appliances | • Attend testing and tagging training as required by the Office of Facilities Management.  
  • Test and Tag all Facilities Management workshop base electrical equipment in accordance with AS3760. | • Maintain records of maintenance and inspection of power tools for Facilities Management in accordance with AS3760. |
<table>
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</table>
| **8.5 Residual Current Devices (RCDs)** | Ensure the use of RCDs when using any hand held or portable electrical appliances. | • Inspect and test all fixed residual current devices in accordance with AS/NZS 3760.  
• Ensure test and inspection records are maintained for a period of seven years. |
| **8.6 Sufficient number of socket outlets** | • Report matter to Supervisor or Manager if insufficient power outlets are available in a work area;  
• Ensure Clear Access to all socket outlets that require frequent access, i.e. create a safe work environment and in addition prevents manual handling injuries when accessing socket outlets;  
• Cables are managed to avoid trip hazards and/or damage to cables,  
• Furniture is positioned to take the best advantage of available socket outlets within the area. | • Regularly check for Hazards ensuring clearance to socket outlets.  
• Discuss area specific safety issues relating to insufficient socket outlets are highlighted with building occupants. |
| **8.7 When power boards and/or extension cords are required** | Generally where possible the use of power boards and/or extension cords should be avoided. Where this cannot be achieved the following applies:  
• Position all electrical cords in a neat and tidy manner ensuring cables are managed to avoid hazards and/or damage to cables;  
• Only use one single extension board on any double socket outlet;  
• Ensure power boards and/or extension cords are used in locations which are free of liquids and other hazardous materials;  
If the Electrical Equipment is used in a Hostile Environment, or is frequently plugged in and out, ensure Individually Switched or Safety Shuttered power boards are in use or made available  
Hand-held portable devices shall not be used in conjunction with a power board. | • Ensure any power boards and extension cords are in accordance with Australian Standards.  
• Ensure only one power board for any socket outlet  
• Double adaptors shall not be used. |
| **8.8 Out of Service “Danger Tags”** | Shall be applied as appropriate to isolate any plant or equipment that is faulty or being serviced to protect personnel and equipment. | Ensure an appropriate procedure is in place covering basic safety principles and isolation requirements to protect personnel and equipment.  
Out of Service or Danger Tag applied as appropriate. |
<table>
<thead>
<tr>
<th>Minimum Standard</th>
<th>All In-House Electricians</th>
<th>Office of Facilities Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.9 Working on “Live Equipment or installations”</td>
<td>Working on “Live Equipment or installations” is prohibited. An exception to the above exists for the purpose of: • Fault finding • Commissioning and • Testing And only in the cases where it is imposable to carry out the above function without the equipment or installation being live; For the purposes of Live working appropriate personal protective equipment and precautions must be taken.</td>
<td>• Ensure there is no possible alternative way of undertaking the works other than in the live state; • Ensure a Job Safety Analysis has been undertaken; • Ensure all the risks have been appropriately managed; • Ensure that the person carrying out the works has the appropriate combination of skills, knowledge and technical training to undertake the work safely; • Ensure the person carrying out the work uses the appropriate personal protective equipment; • Ensure a suitably qualified Safety Observer is present throughout the works.</td>
</tr>
<tr>
<td>8.10 Electrical Installation work</td>
<td>All electrical installation work performed, shall be in accordance with relevant Australian Standards and legislation and authorised by the Manager, Electrical Engineering or nominee.</td>
<td>Ensure all work carried out is in accordance with the provisions of: • Relevant Legislation and Australian Standards</td>
</tr>
<tr>
<td>8.11 Access Permit</td>
<td>An Access Permit must be obtained from the Office of Facilities Management prior to commencing any electrical work on, or work in the vicinity of any high voltage apparatus on University grounds.</td>
<td>Issue Access Permits in accordance with the Office’s High Voltage Electrical Safety Guidelines.</td>
</tr>
<tr>
<td>8.12 Working on, or in the vicinity of overhead electric wires</td>
<td>Ensure only authorised personnel undertake: • Work on overhead electric wires located on University premises; • Work on or adjacent to a metal scaffold that is less than 4.5m horizontally from, or less than 6.0m below overhead electric wires; • Use of plant within 2m of overhead electric distribution wires or within 6m of overhead electric transmission wires, or in any manner by which the plant could reach an aerial conductor.</td>
<td>Ensure only Authorised Personnel undertake any work on or near electric wires within Curtin University.</td>
</tr>
</tbody>
</table>
9. References

AS/NZS 3000 Wiring Rules, Standards Australia
AS/NZS 3760 In-service safety inspection and testing of electrical equipment
Occupational Safety and Health Act 1984
Occupational Safety and Health Regulations 1996 (WA),
Electricity Act 1945, Reprint 7: The Act as 2 May 2008
Electricity (Licensing) Regulations 1991, Electricity Act 1945 (WA)
10 Schedule A - Isolation Guideline

PROCEDURES

10.1 Energy isolation

Before starting work where a person could be endangered by the operation of plant or equipment or the release of stored energy, the plant, equipment or process must be properly isolated, stored energy released, the source of energy isolated and a Danger Tag and Personal Lock affixed to the main isolator(s).

The following steps shall be followed by the person carrying out the isolation in consultation with the person responsible for the plant, equipment or process to be isolated:

10.1.1 The person responsible for the plant, equipment or process shall be notified as to the reason and duration of the isolation

10.1.2 The person responsible for the plant, equipment or process is to notify all affected personnel

10.1.3 The person responsible for the plant, equipment or process and the person(s) carrying out the isolation shall complete a hazard analysis by, identifying the type and magnitude of the energy source, understanding the hazards associated with the energy source and ensuring the isolation controls the hazard(s);

10.1.4 Identify the type and location of every energy source control and isolation point; place the isolators in a safe position;

10.1.5 The person(s) arranged to work on the plant, equipment or process shall each place a personal lock on each isolation point;

10.1.6 The person responsible for the plant and the person(s) arranged to work on the plant, equipment or process shall confirm that the correct isolator(s) have been identified and placed in a safe position;

10.1.7 Verify that the isolation is effective by trying to start the plant or equipment or process;

10.1.8 Following verification of the isolation a personal Danger Tag shall be affixed to each personal lock by all personnel who are to work on the plant, equipment or process.

10.2 De-isolation

The restoration of the plant, equipment or process to operating condition is to be carried out by the person who is responsible for completing the work on the plant, equipment or process.

De-isolation shall be achieved by:

- Checking the plant, equipment or process for operational integrity, including the completion of all work and the removal of non-essential items, tools and equipment from around the work area;

- Verifying that operation controls for the plant, equipment or process are in the "Off" or "Neutral" position;

- Removing Personal Lock(s) and Danger Tag(s) from isolation point(s) and placing the isolations in the required position. Danger Tags and Personal Locks must only be removed by the person(s) who affixed them and who are to be protected by their use. A local procedure is to be developed for the removal of Danger Tags and Personal Locks in circumstances where the owner cannot be contacted to effect removal;
• Notifying the person responsible for the plant, equipment or process that work is completed and the plant, equipment or process is restored to operational condition.

10.3 Safe electrical isolation

Prior to commencing work, the occupier of the electrical installation must be consulted to confirm that the isolation of supply will not cause a loss of supply to critical medical equipment, information technology equipment or other essential equipment.

The following items must be planned in advance prior to commencing work:

• The time for the isolation to proceed;
• The extent of the isolation to ensure the electrical equipment to be worked on is removed from ALL sources of supply;
• The operation of control devices, which may inadvertently energize the installation or equipment to be worked on; and
• The information formalized which will be given to all associated personnel regarding the agreed outcomes.

Isolation and tagging shall be carried out in accordance with the Isolation. Safety Tagging and Locking Procedure as follows:

• Check Test Apparatus;
• Locate and identify the electrical circuit or equipment subject of the work to be carried out;
• Identify if the circuit or equipment subject of the work to be carried out is in service;
• Isolate from ALL sources of supply by removing fuse links (fuse links should be removed from the vicinity of the switchboard) or by operating circuit breakers (where possible lock off circuit breaker);
• Until proven, treat all electrical equipment as “LIVE;”
• Fit personal “DANGER TAG(s);”
• Should there be any doubt as to the effectiveness of isolating by means of fuse links or circuit breakers, then the circuit should be isolated by removal of the active and associated neutral conductors from the LOAD side terminals of switches controlling that part of the installation or equipment subject of the work to be carried out. Disconnected circuit conductors shall be treated in a manner that will prevent contact with LIVE sections of the installation and shall have DANGER TAG(s) fitted;
• Test apparatus should be checked for correct operation on a KNOWN source of supply;
• Test for isolation of identified circuit(s);
• Check test apparatus again for correct operation on a KNOWN source of supply; and
• Commence work.

10.4 Danger Tags and Out of Service Tags

Local worksites are to ensure that a supply of Danger Tags and Out of Service Tags is maintained in locations accessible to users.

All persons working on an installation, circuit(s) or equipment that has been electrically isolated, must complete the information sections provided on the tag and fit personal “Danger” tags or “Out of Service” tags. This may include non-electrical workers and persons not in the employ of Curtin.

Appropriate warning tags shall have all information clearly printed in the information sections provided.
Out of Service Tags shall be attached to an item of plant, equipment or process that is taken out of service due to a fault, damage or malfunction or is not safe.

Out of Service Tags shall be used when repairs, cleaning or the adjustment of an item of plant, equipment or process is not completed and is still unserviceable or unsafe.

The Out of Service Tag shall be securely fixed to the isolator with the appropriate details completed on the tag explaining the reason for the out of service condition.

“Out of Service” tags shall be replaced with “Danger” tags if, for any reason, the Electrical Worker must leave the workplace prior to completion of the work.

**NOTE:** A Tag must only be removed by the person who fitted it.

“Out of Service” tags may be removed by any licensed electrical worker on verification that the installation or equipment is electrically safe and all other personnel have completed their tasks.

*In the event that the person who fitted a Danger tag cannot remove it, the nominated Electrical Worker, Senior Electrical Supervisor or Manager, Electrical Engineering must be informed. Appropriate testing should be carried out to confirm the status of the installation or equipment. The “Danger” tag may only be removed when the nominated Electrical Worker, Senior Electrical Supervisor or Manager, Electrical Engineering is satisfied that it is safe to do so.*

*Installations, circuits or equipment must not be energised whilst “Out of Service” or “Danger” tags are attached.*

### 10.5 Testing and checking

On completion of any electrical work, it is the responsibility of the Electrical Worker who carried out the work to ensure that the installation meets the requirements of the Electricity (Licensing) Regulations 1991, 49(1) and that it is safe to connect to the electricity supply.

The following testing and checking must be carried out by the Electrical Worker and the test results recorded on a Curtin ‘Testing and Checking’ report form as follows:

- An initial visual check must be undertaken to confirm that all electrical work has been completed correctly and that it conforms to the electrical drawing. Confirmation must be obtained that protective devices are of the correct rating. Tools, excess materials or rubbish must be removed from any part of the installation or equipment where they may be hazardous to safe operation.

- Earth resistance tests must be performed to ensure that the resistance of the protective earthing conductors is low enough to permit the passage of current necessary to operate the overcurrent protective devices, in accordance with the requirements of AS/NZS 3017 Electrical installations – Testing and inspection guidelines. The resistance of the main earthing conductor or any equipotential bonding conductor shall be in accordance with the requirements of AS 3000.
• An insulation resistance test must be performed to ensure that the insulation resistance between live conductors and earth, of the complete installation or any part thereof, measured with all fuse elements in place, all appliances disconnected and all switches on, is not less than 1MΩ.

• Polarity tests must be performed to prove that all active, neutral and protective earthing conductors in the electrical installation are correctly connected to the corresponding terminals of the electrical equipment so that:

• There is no transposition of conductors that could result in the electrical equipment becoming unsafe when it is connected to supply, particularly where equipment is connected by socket outlets; and

• Switches do not operate independently in the neutral or earthing conductors.

• The active, neutral and protective earthing conductors of each circuit are to be checked to ensure that they are correctly connected so that there is no:

• Short circuit between the conductors;

• Transposition of conductors which could result in the earthing system and any exposed conductive parts becoming energised; and

• Interconnection of conductors between different circuits.

• A final visual check should be performed before supply to the installation is restored to ensure that the MEN connection and all equipment disconnected for testing is re-terminated correctly. The Electrical Worker must remove their Danger tag or Out of Service tag.

Prior to energising the installation, all personnel must be notified and precautions taken to prevent the inadvertent operation of any connected equipment.

• The functional operation of the installation, circuit(s) and equipment shall be confirmed.

11. Schedule B - Portable Electrical Testing and Tagging Guideline

PROCEDURES

11.1 Electrical equipment requiring Testing and Tagging
All low voltage Electrical Equipment/Appliance used in a construction or workshop environment shall be Tested and Tagged

11.1.1 Testing and tagging shall be undertaken in accordance with the provisions of AS/NZS 3760 In-service safety inspection and testing of electrical equipment

11.1.2 Testing and Tagging shall be undertaken by a 'competent person'

11.1.3 Testing records shall be maintained for a period of 7 years

11.2 Appropriate control measures shall be employed
Appropriate control measures shall be employed to ensure the safe operation of all electrical equipment, irrespective of testing intervals; this shall include a combination of:

• Regular visual inspections by the user(s);

• Formal visual inspections as part of the regular workplace inspections;

• Regular maintenance and servicing of equipment;
• Use of RCD's or safety switches;
• Appropriate training and Standard Operating Procedures.

11.3 Serviced or Repaired Electrical Equipment
Electrical equipment that has been serviced or repaired must be inspected and tested in accordance with the provisions of AS/NZS 3760 prior to the equipment being placed back into service.
ELECTRICAL INCIDENT

1. Dial 5
   Medical Emergency
   Security and Campus Health Service
   Medical treatment is necessary due to possible secondary issues in the ensuing 24 hours
   An ECG must be sought as soon as practically possible after an Electric Shock

2. Immediately report to Manager Electrical Engineering (Properties) via ext. 2020
   Report to Energy Safety (formerly Office of Energy)

3. Immediately report to Responsible Officer/Project Manager (Contractors) or Supervisor/Manager (Curtin Staff)
   Report to EduSafe
   Complete on-line Incident Report and carry out Accident Investigation
   [Person involved, Responsible Officer/Supervisor, Office of Energy, EduSafe, Safety & Health Representative]