

School of Electrical, Electronic and Computer Engineering



HEALTH AND SAFETY POLICY

Dated:1st September 2008.....

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STATEMENT OF INTENT

1. The School of Electrical Electronic and Computer Engineering ("EECE") recognises and accepts its legal obligations (under the Health and Safety at Work Act 1974 and all applicable regulations made under it) to ensure, as far as is reasonably practicable, the health, safety and welfare at work of all its employees, trainees, undergraduate and postgraduate students, University estates personnel, contractors and temporary workers ("Employees") and also the health and safety of visitors and other persons who attend or use its premises and who may be affected by its work ("Visitors").

2. In accordance with its legal obligations, EECE is in the process of carrying out a risk assessment of all its activities, equipment, facilities, buildings and all other related arrangements where matters of health and safety may be involved. This Health and Safety Policy ("the Policy") is designed to enable EECE to comply with its statutory health and safety obligations, to apply the necessary measures identified in its risk assessment and to adopt all other reasonably practicable measures to:

- 2.1 reduce hazards and the risk of personal injury to its Employees other university employees Undergraduate, postgraduate students and Visitors arising out of its activities;
- 2.2 maintain a safe and healthy place of work; and
- 2.3 reduce hazards and the risk of damage to its property.

3. In particular, EECE shall:

- 3.1 identify hazards and assess risks to health and safety;
- 3.2 provide and maintain safe plant, equipment and systems of work that are free of risk to health;
- 3.3 maintain any place of work under its control (including access and egress) safe and free of risk to health;
- 3.4 provide safe arrangements for the use, handling, storage and transport of articles and substances;
- 3.5 provide adequate and appropriate information, instructions, training and supervision;
- 3.6 consult with all the Employees on health and safety matters;
- 3.7 liaise with contractors and other employers where necessary;
- 3.8 monitor, inspect and review the implementation of this Policy; and
- 3.9 monitor review and update this Policy as and when necessary

4. To this end, proper implementation and application of this Policy by everyone is essential. Employees, visitors and contractors are required to comply with the terms of this Policy and any other related arrangements or policies, made by the University take all reasonable steps to protect their own safety and that of other Employees; and co-operate with the Head of School in the implementation of this Policy.

5. The ultimate responsibility for overseeing the implementation of this Health and Safety Policy rests with EECE's Head of School.

SIGNED: _____ **DATED:** _____
Professor Bayan S. Sharif (EECE Head of School)

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ADMINISTRATIVE ORGANISATION

1. Management

1.1 The ultimate responsibility for preparing and reviewing this Policy rests with EECE's Head of School. If necessary, he shall be assisted by the Health and Safety Officer, the Health and Safety Committee and / or other members of management and / or Employees appointed by him from time to time.

1.2 The Head of School is also responsible for the implementation of this Policy. However, this responsibility may also be shared with Heads of Research (for work, Work areas), Employees and the Health and Safety Officer.

1.3 In particular Heads of Research groups or their representatives (for work, work areas, Employees and Visitors in their sections) School Superintendent (for workshops, stores and technical areas) and the Health and Safety Officer (for all general access areas and Employees and Visitors of the business) shall be responsible for:

1.3.1 identifying hazards, evaluating risks and producing a written risk assessment for all activities and / or equipment within their area(s) of responsibility as designated by appendix A and putting in place arrangements for controlling and reducing such risks;

1.3.2 monitoring the implementation of this Policy;

1.3.3 advising all Employees in their area(s) of responsibility on all matters of Health and Safety;

1.3.4 monitoring the physical conditions of their area(s) of responsibility to ensure that Employees and Visitors are exposed to the lowest reasonably practicable level of risk;

1.3.5 providing and communicating up-to-date Health and Safety information,

1.3.6 providing or arranging Health and Safety training through the Head of School or Health and Safety Officer

1.3.7 liaising with the Health and Safety enforcing authorities; and

1.3.8 providing support for EECE's Head of School.

1.3.1 Areas of responsibility are detailed in Appendix A and will be reviewed each year by the Health and Safety committee, changes in designated areas should be reported to the Health and Safety Officer at the soonest opportunity.

1.4 In addition, Heads of Research groups (for work, work areas, Employees and Visitors in their sections) and the Health and Safety Officer must make appropriate arrangements to monitor the effectiveness of all Health and Safety arrangements within the areas of responsibility (including, regular safety inspections and audits). Where necessary, remedial action

should be agreed on, reported to the Head of School and the Health and Safety Officer and carried out within reasonable time.

1.5 In addition, EECE's health and safety officer shall consult with all the

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Employees on health and safety matters.

1.6. It is the responsibility of the health and safety officer to ensure that all new Employees receive relevant health and safety information within reasonable time of joining EECE, normally 1 month

2. Employees

2.1 Employees have a duty to take reasonable care for their health and safety and that of others who may be affected by their actions or omissions.

2.2 Employees are required to comply with all of the terms of this Policy to the extent that it applies to them. Failure to do so may result in disciplinary action (including, where appropriate, dismissal). In particular, Employees should become familiar with the provisions for dealing with emergencies, fire precautions and procedures, bomb alert procedure and first aid arrangements.

2.3 Employees are required to report to the health and safety officer anything which they suspect may represent a serious and immediate danger to health and safety or a shortcoming in EECE's health and safety arrangements.

2.4 Any Employee who has a disability or who otherwise suffers from any condition which may affect the implementation of any of the terms of this Policy in relation to him / her, is encouraged to inform their direct superior of their disability or condition and any effect it may have. This information must then be conveyed to the Health and Safety Officer so that suitable actions can be agreed.

2.5 No person may intentionally or recklessly interfere with or misuse anything provided in the interests of health, safety or welfare under this Policy. An Employee who is suspected of such interference or misuse may be subject to disciplinary action in accordance with Human Resources Policies

2.6 An Employee who has any question in relation to this Policy or any health and safety matter, should contact the health and safety officer.

2.7 Information and suitable instruction is available from EECE's Health and Safety Officer, the Universities Safety Office website or other Safety Websites.

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INFORMATION, INSTRUCTION AND TRAINING

1. Information

1.1 Health and safety information comes from numerous sources. Employees who seek health and safety information are advised in the first place to contact the health and safety officer. In addition, Employees may search and download useful information using the World-Wide-Web (including the Universities own Health and safety website at www.newcastle.ac.uk/ . Free HSE advisory leaflets on a wide range of health and safety issues may be obtained from the health and safety officer or from the Health and Safety Executive Website at www.hse.gov.uk

2. Instructions

2.1 Specific practical information (instruction) on how to carry out processes or use equipment safely can be obtained from manufacturers instructions, relevant instructional courses, the designated area or equipment supervisor or the Health and Safety Officer. In addition, manufacturers' instruction manuals should be consulted before any equipment is used or in the event of any fault, defect, problem or query.

3. Training

3.1 Health and Safety training is available through the university safety office or staff development unit (SDU) or will be arranged by the health and safety officer as and when appropriate and may be provided internally or externally. In particular, it is envisaged that training shall be provided to Employees joining EECE and on their being exposed to new or increased risk (e.g. following the introduction of new equipment, technology or systems of work). Where appropriate, training shall be repeated periodically. Records of all training shall be tabulated by those responsible for their relevant areas or equipment and kept centrally by the health and safety officer.

GENERAL HEALTH AND SAFETY PRECAUTIONS

1. Having carried out a risk assessment, EECE has and shall continue to have, and Employees are required to maintain, a clear understanding of the hazards involved in any particular situation and remain vigilant towards the general condition of any equipment, materials and other items in their use.
2. Where appropriate, Employees shall receive / undergo adequate training designed to help them maintain safety awareness, look out for safety risks and understand the importance of minimising risks and of adhering to methods which are designed to achieve this.
3. All known problems and / or defects to equipment or items must be reported to ,Research group leader or section head/supervisor, who shall be responsible for organising and ensuring that the equipment is made safe and repaired or replaced as required. All defects, and dangerous occurrences, as defined by RIDDOR regulations must be reported using the Universities reporting process from the web address
4. Employees' clothing and footwear must be suitable for the work they do. Where protective clothing and equipment are required, they shall be provided free of charge by the school and must be used.

WORK ARRANGEMENTS AND WORKING AREAS

1. General precautions

1.1 Working areas shall be designed to ensure adequate space, light, temperature and ventilation for reasonable comfort and safety. Noise levels should be as low as the work permits and within safe limits. Where it is not reasonably practicable to keep noise to safe limits, protective personal equipment shall be provided free of charge by the school and must be used by Employee.

1.2 Any area of special hazard shall be signposted clearly and be subject to suitable safety measures and access arrangements. Appropriate protective equipment / clothing shall be provided for dealing with any particular danger or hazard at the relevant area, and must be used / worn.

1.3 Only specially trained and authorised Employees may enter and, if necessary, work in a special hazards area,. Such Employees are required to contact the health and safety officer and to take all the necessary precautions as detailed by their supervisors relevant written risk assessment before commencing work.

1.4 Corridors and staircases must provide safe emergency escape routes and access. They must not be used as storage or work areas. Windows, doors and gates shall be suitably constructed and, if necessary, fitted with safety devices.

1.5 Employees are reminded that polished / wet floors may be slippery; there should be no running on bare floors. In addition, all floors must be kept dry and free of litter, goods, trailing cables etc. An Employee who detects torn floor surfaces (e.g. carpet) should report this immediately to the School Superintendent.

1.6 Access to high-level storage should be made using adequate equipment which shall be made available . Manual handling assessments and instructions must be followed when carrying any load.

2. Temperature and humidity

2.1 Steps shall be taken to endeavour to keep temperature in EECE's premises within a comfortable range and in any event above the statutory minimum of 13 degrees centigrade for active work and 16 degrees centigrade for office work (after the first hour of work and except for cold rooms, rooms which are open to the outside and the like). There is no set maximum temperature, but EECE shall endeavour to ensure that temperature is maintained at a comfortable level. In addition, EECE shall endeavour to keep buildings at a comfortable humidity range (40-75% RH) to prevent irritation to eyes and respiratory tract. When requested to do so, the health and safety officer will carry out temperature and humidity monitoring.

2.2 Where, due to an Employee's work, it is not practicable to maintain the

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temperature and level of humidity specified in clause 2.1 above (e.g. because an Employee works outdoors), EECE shall take all reasonable measures to prevent the risk of injury to the Employee (e.g. by providing personal protective clothing, allowing for acclimatisation to the work environment and training). Employees are required to adhere to all such measures and use protective equipment at all times.

2.3 Cooling equipment must not be positioned in such a way that long hair might get caught. Heating apparatus must not be placed near paper, furnishings and other equipment or material which can catch fire. Air conditioning and hot water systems shall be checked and maintained regularly, as required by law, by the Estates Department as arranged by the School Safety Officer. Private heating or cooling equipment must not be used, except with the prior authorisation of the head of School (in which case, all equipment shall be tested and inspected by the schools appointed electrical safety tester regularly, as required by law).

3. Lighting

3.1 It is important that Employees have adequate lighting suitable for the activity which they carry out. Accordingly, EECE shall endeavour to supply lighting in accordance with the following average and minimum levels (given consecutively in lux):

3.1.1 movement of people, in corridors (20 and 5 lux);

3.1.2 movement of people in hazardous areas, e.g. construction sites (50 and 20 lux);

3.1.3 work requiring limited perception of detail (100 and 50 lux);

3.1.4 work requiring perception of details, e.g. offices (200 and 100 lux); and

3.1.5 work requiring fine perception of details (500 and 200 lux)

3.2 Lighting shall also be provided at places of particular risk. Automatic emergency lighting, powered by an independent source, shall be provided where sudden loss of light would create a risk to health and safety.

4. Noise

4.1 Wherever there is a noisy work environment (e.g. an Employee needs to shout to communicate with a person about 2 meters away), the health and safety officer should be informed and shall arrange an assessment of noise levels. A record of any assessment shall be kept until a new assessment is made.

4.2 If noise or sound pressure exceeds the level prescribed by law (85dB(A)), steps shall be taken to reduce the noise / sound pressure to the lowest level reasonably practicable. Where noise level is between 85dB(A) and 90dB(A), Employees shall must be supplied with ear protection (e.g. ear muffs or ear plugs) which they are advised to wear and with information about the risks involved. Where noise level exceeds 90dB (A), Employees shall be supplied with ear protection which they must wear whenever they are in any area of such high noise ("a hearing protection zone").

4.3 Where necessary, hearing protection zones shall be marked with appropriate notices.

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4.4 Ear protectors must be maintained and stored properly and in accordance with any relevant instructions (e.g. manufacturer's maintenance schedule). Any defects must be reported immediately on their discovery to the health and safety officer.

5. Lone and after hours working

5.1 As far as reasonably practicable, lone / after hours working, not including PC's or study work shall be carried out only if:

5.1 it follows University and HSE recommendations

5.1.1 a second person is present in within earshot;

5.1.2 at least one person in the building is competent to deal with any hazard peculiar to the job at hand;

5.1.3 a telephone (allowing external and internal connection) is available to the person working alone or after normal hours;

5.1.4 an appropriate and adequate safety procedure is established (e.g. a telephone reporting system); and

5.1.5 special arrangements are made to ensure the safety of any disabled Employee who works alone / after normal hours.

6. New and expectant mothers

University guidelines on these matters should be followed these are detailed on the university website

7. Manual handling operations

7.1 Manual handling operations include any task which involves lifting, pushing, pulling moving and supporting loads through physical effort.

7.2 As far as reasonably practicable, manual handling operations shall be avoided, e.g. by eliminating or redesigning the task or by using automation or mechanisation.

Where a manual handling operation has to be carried out, it must be assessed and the risks of injury identified. All reasonably practicable safety measures must be taken, including informing the relevant Employee of the weight of the load to be carried; altering or splitting of the load; providing and using mechanical aid equipment; and changing the task layout or design. No Employee should be asked or attempt to lift a load that is assessed to be too heavy.

7.3 Any Employee who carries out a manual handling operation is required to:

7.3 Ensure they are aware of the manual handling assessment requirements

7.3.1 check that the area through which and to which the load is carried is clean and tidy;

7.3.2 wear shoes which have a good grip and, have protective toecaps; not wear loose clothing; wear gloves (when necessary); and use all other supplied and necessary protective and handling equipment;

7.3.3 stand close to the load and plant feet firmly with legs approximately 30 centimetres apart;

7.3.4 squat with bent knees, keeping his / her back straight and chin tucked in;

7.3.5 grip the load firmly and stand up slowly with the load kept near the body -

- the load should not be lifted above chest height;
- 7.3.6 use smooth movement; avoid jerking, twisting, jumping etc;
- 7.3.7 lower the load slowly by bending the knees and letting the legs take the strain;
- 7.3.8 take extra care if suffering from a back problem;
- 7.3.9 Not to lone lift any weight assessed as a coordinated lifting task

8. Working at heights

8.1 When working at heights, Employees must take all necessary precautions to avoid the risk of falling. To this end, Employees should use guard railing or safety belts / harnesses, as appropriate. Safety belts or harnesses must be adequately anchored to the structure whenever an Employee is at his / her working position or at rest. It should be noted that ladders are a means of access and should not be used as a permanent working platform.

8.2 Tower scaffold platforms shall only be assembled by properly trained Employees in accordance with instructions from the health and safety officer.

8.3 When working at a height greater than 2 meters, special care must be taken to avoid risks to the health and safety of persons below. Equipment must be secured where appropriate and "KEEP CLEAR" or "FALLING ZONE" notices must be posted.

9. Asbestos

9.1 The university Estates and Safety office have a comprehensive policy on Asbestos exposure which must be followed at all times. Asbestos will not be introduced into the school by any means. Alternative material must always be sought.

9.2 Where work does involve asbestos the estates office must be informed and arrangements for it safe removal be made

9.3 An Employee who uncovers hidden material or dust which s/he suspects may contain asbestos, must stop work immediately and contact the health and safety officer who shall arrange for the material / relevant area to be inspected (and, if necessary, closed down) and for asbestos to be removed.

9.4 All asbestos removals shall be carried out under the control Of the University Estates Department. Employees must not attempt to carry out asbestos removal under any circumstances.

10. Disposal of waste material

10.1 Workplaces must be kept clean and all domestic waste material disposed of regularly, in suitable receptacles in accordance with University and House Services policies, details of which can be found on the University website

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10.2 Known and assessed hazardous waste materials must only be disposed of in accordance to the University safety office recommendations through Approved Waste Disposal Agents

11. Visitors

11.1 The responsibility for Visitors rests with the person who invited them. All Visitors shall be given relevant safety information, instruction and training, protective clothing or other safety equipment as may be necessary and appropriate.

11.2 As far as reasonably practicable, the location of any Visitor with impaired mobility shall be known at all times to the person who invited the Visitor. Such a Visitor shall be accompanied by an Employee throughout the visit. For the purpose of this Policy, a person has impaired mobility if s/he cannot, without the assistance of someone else, use stairs to leave a building.

11.3 Every precaution must be taken to ensure that Visitors do not enter hazardous areas (unless they have written authorisation; they were informed in advance of the specific hazards; and they wear suitable protective clothing).

12. Children and young persons

12.1 Employees should not bring children to work, except with the prior written authorisation of the Head of School. An Employee who is authorised to bring a child to work, must keep him /her in close supervision at all times.

13. Smoking

13.1 EECE upholds the university policy on smoking and prohibits smoking upon its premises

14. Alcohol and substance abuse

EECE upholds the university policy on alcohol and substance abuse.

14.1 Alcohol and drugs may have significant detrimental effects on individuals' health and safety at work. Employees must not consume any alcohol or drugs (including certain medications) whilst at work.

15. Violence, harassment and bullying

EECE uphold the university policy on these matters

16.1 All reasonable security precautions have been and shall continue to be taken to prevent the risk of violence against Employees and of harassment or bullying of Employees at work. However, should Employees be subjected to violence, bullying or harassment at work, they are encouraged to report the matter to personnel officer at the earliest opportunity, or to any other member of management whom they feel comfortable to address.

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16.2 All complaints of harassment, bullying or violence shall be taken seriously and shall be investigated fully, promptly and objectively. As far as reasonably practicable, EECE shall take steps to keep the Employee's identity and complaint, the identity of the alleged offender and the investigation, confidential. If the result of the investigation so merits, disciplinary action shall be taken against an offending Employee.

WORK EQUIPMENT

1. General precautions

1.1 Work equipment includes any machinery, appliance, apparatus or tool which is used by an Employee at work (e.g. hammer, ladder, drilling machine, photocopier, lifts and lifting equipment, and motor vehicle). It may include equipment not in EECE's ownership (e.g. equipment which is owned privately by an Employee). The use of any equipment which is not owned by EECE must be authorised in advance by the health and safety officer, this includes all domestic appliances and equipment, privately owned, but brought into work to support the schools activities

1.2 Incorrect and / or careless use of equipment can result in personal injury to any person and damage to property or equipment. Therefore equipment must be used with due care, for its intended purpose and in its intended conditions only. Equipment must be used in accordance with its instructions for use and any applicable directions and training (e.g. about the time and manner of use).

1.4 Where necessary, Employees shall receive information, instructions and training before they begin to use any equipment (and thereafter, if necessary). This shall include information etc about potential hazards; safe conditions and methods of use; use of protective equipment; possible emergencies and emergency action. Only trained and authorised Employees may use hazardous equipment. Use of hazardous equipment by unauthorised Employees may result in disciplinary action.

1.5 All equipment must be maintained in a safe and efficient condition and good repair. Storage and maintenance must be suitable for the specific equipment. Where necessary, equipment shall be inspected to ensure that it is safe for use without risk of injury or damage and appropriate records shall be kept up to date.

1.6 Employees are required to report any fault / defect which they notice in any work equipment or safety device attached to it or any personal protective equipment to the health and safety officer, immediately on discovering the said fault / defect. Equipment must not be used until defects / faults have been rectified.

1.7 Where necessary, safety devices shall be attached to equipment (e.g. protective devices, markings or warnings). Equipment must be operated with or in accordance

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with any safety devices attached to it. Safety devices must not be removed, circumvented or otherwise tampered with. An Employee who removes, circumvents or otherwise tampers with a safety device may be subject to disciplinary action

1.8 Where appropriate, Employees shall be provided with personal protective Equipment free of charge. Employees must use such equipment at all times when operating, working or being in the vicinity of the relevant equipment.

1.9 When buying new work equipment or disposing of old equipment, relevant legal requirements (WEEE regs) and product safety regulations shall be followed. For example, all new equipment must carry the CE mark or appropriate international kite mark.

1.10 Employees may not take any work equipment out of EECE's premises, except with the prior written authorisation of their group leader or supervisor and also with the consent of the School Superintendent or Head of School upon completion of the relevant loan form.

2. Personal protective equipment

2.1 Personal protective equipment appropriate for the risks involved and suitable for the job at hand and the particular Employee doing it shall be supplied and must be used at work and supplied free of charge, whenever there is a risk to health and safety which cannot be adequately controlled by alternative means. Personal protective equipment must be used or worn in accordance with instructions for use and any directions and training given from time to time.

2.2 Any Employee whose work may involve for whatever period of time:

2.2.1 falling or flying particles (e.g. through load lifting), dust, chemical or metal splash, projectiles, gas and vapour or radiation, shall wear goggles or face screens or suitable respiratory protection;

2.2.2 falling or flying objects, risk of head bumping or hair entanglement, shall wear a helmet, bump cap, skull cap, hair nets, hats or cape hoods as may be appropriate;

2.2.3 excessive noise or sound pressure, shall wear adequate ear protection such as ear muffs or ear plugs;

2.2.4 extremes of temperature, adverse weather, contaminated dust or spray from pressure leaks or spray guns, shall wear suitable overalls, boiler suits or other special protective clothing as may be appropriate;

2.2.5 abrasion, extremes of temperature, cuts, impacts, electric shock, vibration or skin infection or disease, shall wear gloves, gauntlets, mitts or armllets as may be appropriate;

2.2.6 wet surfaces, slipping, cuts, falling objects, abrasion, metal and chemical splash or electric build-up, shall wear safety boots / shoes, gaiters, leggings or spats as may be appropriate;

2.2.7 dust, vapour, gas or oxygen deficient atmosphere, shall use / wear breathing apparatus, filter face piece or respirator or air-fed helmets as may be

appropriate.

2.3 In all cases, Employees must wear adequate footwear and clothing for their work / work area. Jewellery and loose clothing should not be worn when using or moving machinery and long hair must be protected by suitable headgear, hair protection.

2.4 Personal protective equipment must be maintained and stored properly and in accordance with any relevant instructions (e.g. manufacturer's maintenance schedule). Any defects must be reported immediately on their discovery to the issuer section leader or the health and safety officer.

3. Guarding

3.1 Employees must not use machinery without the appropriate guard. Where appropriate, a guard must be replaced after a machine has been re-set. Guard interlocking devices must never be defeated or tampered with.

3.2 Hazardous machinery must always be guarded in accordance with the British Code of Practice on Safe Use of Machinery (BS 5304: 2000) or other relevant standard

3.3 Employees are required to report to the health and safety officer or their supervisor any defect / fault which they notice in a guard / interlocking device and / or any missing guard or interlocking device as soon as they discover the problem.

4. Ladders and other access equipment

4.1 Ladders and other access equipment must be inspected regularly, including before and after use. If any defect is found, remedial action must be taken immediately and the ladder / access equipment must not be used until such remedial action has been completed. Wooden ladders / access equipment must not be painted. They must be checked for rot, decay, mechanical damage, splintering and wear and tear of the stiles, head and foot of the stiles and rungs. Metal ladders and access equipment must be checked for corrosion and excessive wear, oxidation, distortion and twisting.

4.2 Whenever using a ladder, Employees must ensure that the ladder is placed securely to prevent it from slipping or falling. A ladder must stand level, on firm footing, at an angle of 75 degrees (approximately 25 centimetres horizontal for each 1 meter vertical). The ladder must be supported to prevent undue swaying or sagging.

4.3 Ladders longer than 3 meters should be securely fixed at the upper end or, if this is not practicable, near the lower end. If neither of these is practicable, and the ladder is less than 6.5 meters long, a person must hold the ladder at its foot to prevent it slipping.

4.4 Over-reaching and the carrying of loads should be avoided when using a ladder.

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5. Lifting equipment

5.1 Lifting equipment includes any equipment used at work for lifting or lowering load / people and any attachment used for anchoring, fixing or supporting it. Examples include forklifts, lifts, cranes, chairs, ropes and slings.

5.2 Lifting equipment must be:

5.2.1 strong, stable and suitable for its particular use. Any load attached to lifting equipment shall also be suitable;

5.2.2 marked to indicate safe methods of use and safe working loads.

Employees must operate equipment in accordance with its marking and must not load it beyond safe limits;

5.2.3 positioned or installed in such a way so as to prevent the risk of injury;

5.2.4 thoroughly examined before being used for the first time (where appropriate) with an appropriate report being drawn, if necessary;

5.2.5 thoroughly examined after installation or assembly and before being put to service, where safety depends on the installation or assembly condition;

5.2.6 inspected regularly and tested periodically as may be specified by law with an appropriate report being drawn (if necessary).

5.3 All lifting operations must be carried out in a safe manner by Employees who are properly trained for the task. In addition, all lifting operations must be planned and supervised.

7. Visual display screen equipment

7.1 Any Employee who uses display screen equipment shall have his / her display screen equipment workstation assessed (and where necessary, adapted) to ensure that its design and layout will avoid visual fatigue and back, shoulder, neck, arms, legs and wrists aches. Adequate chairs, work surfaces and equipment shall be provided.

7.2 VDU Employees are encouraged to take periodical breaks from using the equipment (e.g. 5 minutes every hour), these breaks are designed to be an alternative work period away from the DSE equipment

7.4 VDU Employees shall be given written information and guidance on the safe use of display screen equipment and training the safe use of display screen equipment. Any VDU Employee who wishes to get information relating to health and safety aspects of display screen equipment should contact the health and safety officer.

7.5 Employees must switch off all monitors and display screen equipment at the end of their working day, to avoid the risk of fire.

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8. Abrasive wheels

8.1 Abrasive wheels may only be mounted by trained, authorised Employees. When using abrasive wheels, an Employee must wear suitable eye protection; set the work rest correctly; ensure that all guards are in the correct position; and never exceed spindle speeds. Only fully trained and instructed employees are allowed to use any abrasive wheel machinery.

9. Welding

9.1 Any area where electric welding takes place must be suitably screened and ventilated to avoid the associated hazards of high ultra violet light and risks to eyes.

9.2 Some electric welding machinery involves the operator working in close proximity to a live electrode and the work piece with a consequential risk of a serious electric shock (especially in confined or wet surroundings). Any work piece and metalwork in contact with it must be earthed. The welding return lead should be placed as close as possible to the welding point. All welding leads should be fully insulated. Only fully trained and instructed employees are allowed to use the schools welding facilities

9.3 Employees must report immediately to the Technical Services Supervisor or the Health and Safety officer any defective or poorly insulated welding lead and welding equipment. Defective / poorly insulated welding leads / equipment must taken immediately out of service and repaired.

10. Compressed gas

10.1 Any Employee who uses gas cylinders must familiarise him/her-self with all relevant health and safety issued by the HSE and follow any instructions issued by the University safety office. In particular, the materials from which any components of the system are made must be compatible with the gas used. In addition, gas cylinders must be handled gently and be secured to avoid them being knocked over accidentally. Gas cylinders should be used only with the correct fittings. All employees handling gas cylinders should be properly trained and aware of any relevant manual handling instructions.

10.2 Wherever practicable, all gas cylinders should be kept in well ventilated areas or outside of the building.

11. Paint spraying

11.1 Employees must only carry out paint spraying in a suitably ventilated area.

11.2 Any Employee who uses isocyanate containing ("2-pack") paints must wear full protective clothing and airline-fed breathing equipment. Such an Employee shall be subject to regular health checks.

12. Woodworking machinery

12.1 Only trained and authorised Employees may use woodworking machinery. Access to such machinery by other persons is forbidden.

12.2 Woodworking machinery must be suitable for the purpose for which it is being used and must have all necessary safety features.

13. Pressure systems

13.1 All pressure systems, associated pipework and attached guards and protection devices shall be assessed before they are put into service for the first time and an appropriate regime for regular inspection and testing shall be established. Regular inspection and testing shall be carried out as prescribed by law. In addition, there must be routine maintenance and inspection checks (e.g. for corrosion, leakage and external damages and of seals and lids). All systems should be cleaned out or drained of condensation regularly. Where necessary, a report shall be compiled, recording the results of any inspection / testing. Such reports shall be kept for at least 2 years.

13.2 The safe working limits of each system (including at least minimum and maximum pressures) must be marked clearly on it. Operating instructions shall contain all the information needed for safe operation of the system, including start-up, shut down, stand by, and emergency situations.

ELECTRICITY AND ELECTRICAL EQUIPMENT

In all activities compliance with BS 7671 must be adhered to

1. General precautions

1.1 Anyone using electricity and electrical equipment must be aware of the risks of electrocution, electric shock, burns, fire and explosion, and all precautions must be taken to reduce such risks. A written assessment of all foreseeable risks of personal injury or death associated with work activities involving electricity should be undertaken and shall be reviewed as required by law,

1.2 Fixed electrical installations (including wiring and the socket outlet or isolator) shall be checked regularly to ensure that they are not dangerous. Electrical systems must not be interfered with. No work shall be carried out on EECE's fixed installations and the mains without the Schools Superintendents prior authorisation.

1.3 Switches, isolators etc must be labelled clearly with their current, voltage and equipment they supply where this is not obvious.

1.4 Employees must report any fault or defect which they notice in any electrical

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installation or equipment to the Schools Superintendent as soon as they discover it. Defective installation / equipment must not be used until fully repaired.

2. Electrical equipment

2.1 All Electrical equipment must be safe and suitable for its intended use and must be used in accordance with manufacturer's instructions and information, instructions and (where appropriate) training provided or arranged by the health and safety officer. In particular:

- 2.1.1 electrical equipment must never be used with wet hands;
- 2.1.2 earth connections and screens must not be interfered with;
- 2.1.3 electrical equipment must be positioned safely and securely (e.g. not too close to walls and partitions and allowing for adequate ventilation and cooling);
- 2.1.4 liquid containers must be kept clear of all electrical equipment;
- 2.1.5 electrical equipment and the mains supply must not be overloaded.

2.2 All electrical equipment and their location shall be recorded in a designated database, to enable necessary tests to be made. Ownership of a particular piece of equipment shall be recorded and it will be the owners responsibility to make this equipment available for test when required.

2.3 All electrical equipment will be visually inspected and tested regularly and should normally bear a record or sticker to show this. The results of testing shall be recorded. Out of date equipment must not be used.

2.4 Faults can occur between checks. Therefore, Employees should look out for and pay particular attention to the following potential faults / defects:

- 2.4.1 damage to the insulating sheath around an electrical cable;
- 2.4.2 damage to a plug;
- 2.4.3 joints in the cable, other than due to proprietary cable connections;
- 2.4.4 damage to the external casing of equipment;
- 2.4.5 overheating (this may be evidenced by burn marks or discoloration to plugs, casing or cables);
- 2.4.6 evidence of inappropriate use, e.g. if equipment is wet;
- 2.4.7 any loose connections.

2.5 Employees must report any fault or defect which they notice in any electrical equipment to the School Superintendent as soon as they discover it. Faulty or defective equipment should not be used until repaired. If electrical equipment cannot be repaired immediately, its power supply should be switched off and it should be isolated. All equipment shall have a means of isolation which is easily accessible and identifiable. The isolation point must be secured (e.g. by removing the plug and preferably by locking in the off position) or, if this is not possible or cannot be done safely, by attaching a clear notice (e.g. "DO NOT USE - FAULTY EQUIPMENT"). Barriers must be used where necessary.

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2.6 Only adequate replacement parts shall be used when repairing equipment. This must only be undertaken by suitably competent staff

2.7 Where possible low voltage cordless air, hydraulic or hand-powered tools should be used (especially for work outdoors).

2.8 Unless this is totally unavoidable no-one should work on or near exposed live parts of electrical equipment. In any event, such work must be authorised in advance by the health and safety officer and must only be carried out in the presence of another person who must know what to do in an emergency. A separate risk assessment is required if live working is to be undertaken. All necessary protective equipment must be used / worn.

2.9 Any conducting part of a system which could conceivably become live and yet be handled (e.g. external metal casing of an electric apparatus) must be earthed. All equipment designed with an earth shall be tested before being put into use, to ensure that it is properly earthed.

2.10 Employees who are in doubt about the use of any electrical equipment or who require advice in relation to any such use or equipment should contact the health and safety officer.

3. Portable electrical equipment

3.1 The use of any portable electrical equipment which is not owned by EECE must be authorised in advance by the health and safety officer and the equipment must be tested regularly.

3.2 Portable equipment should be connected to the nearest socket outlet available. Special attention should be paid to the condition of any flexible cable and its termination at the portable equipment and plug. Where possible, double insulated equipment should be used.

3.3 All new portable electrical equipment should be of low voltage (and, where possible, cordless) or double insulated. If a 110 volt transformer is used, it must be centre tapped to earth.

4. Fuses and similar devices

4.1 When using any equipment, the smallest fuse compatible with it should be used, to protect the equipment and flexible cable and to reduce the risk of fire.

4.2 Fuses shall be replaced only after the reason for the fuse blowing up has been ascertained and the cause remedied. Only proper cartridge fuses may be used for replacement.

4.4 Residual current devices (RCDs) shall be used in areas of hazard (e.g. where water has to be used near electrical equipment). Plug-in RCDs must be manufactured to BS7071.

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5. Electrical cables

5.1 Flexible cables must be of the correct size for the load to be carried and must be sheathed with rubber or PVC. The outer sheath of every flexible cable must be firmly clamped to stop the wires pulling out of the terminals.

5.2 Flexible cables must not be used for voltages above 240 or a loading greater than 3 kilowatts. Cables must also be kept away from hot surfaces. Where contact with hot surfaces is inevitable, suitable insulation is obligatory. Twin core cables, such as bell wire and twisted flex must not be used.

5.3 All flexible cables must be examined frequently to ensure that they are free of damage and that earth continuity is maintained. Trailing, frayed and loose cables must be reported immediately, in order to be fixed.

5.4 Flexible cables of excessive length should not be used. In so far as this is practicable, there shall be sufficient socket outlets to avoid the need for long flexible cables or extension cables. Extension cables should be used with caution and must be joined by proper plugs and sockets.

5.5 In so far as possible, all cables must be:

5.5.1 kept clear of the floor or be protected to prevent heavy objects being placed or dropped on them or people walking or tripping over them;

5.5.2 protected where they pass over or round sharp objects or corners;

5.5.3 kept clear of radiators and pipework;

5.5.4 laid so as to avoid being trapped in doors or nipped by moving objects,

5.6 Only one cable should be used from any single plug, except where 2, 3 or 4 way multiple sockets are available. But, in such case, the total load must not exceed 3 kilowatts.

7. Fire hazards

7.1 It is recommended to unplug equipment which is not in use. All equipment must be switched off and / or unplugged before cleaning or making adjustments. Where possible, tools and power socket outlets should be switched off before plugging or unplugging.

7.2 Only dry powder or carbon dioxide extinguishers may be used on electrical fires. Water and water-based extinguishers must **never** be used in case of an electric fire.

7.3 In the event of fire, the fire alarm must be raised .

7.4 All electric incidents / accidents must be reported to the health and safety officer in accordance with RIDDOR and the Universities policy on reporting of accidents

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8. Electricity-related injuries

8.1 In the event of any person suffering electric shock, it is important to:

8.1.1 turn off the power and, if possible, isolate the supply;

8.1.2 call Appointed Person(s) (who take charge in case of injury/illness).

Medical help must be called if the victim seems to be unconscious;

8.1.3 not touch the victim, but try to move him / her out of contact with the live equipment using a non-conducting object such as a wooden broom handle (eg by moving the equipment). In so far as possible, the victim should not be moved.

8.2 All electrical burns (other than very minor and superficial burns) must be inspected by a qualified medical practitioner.

8.3 All electricity-related injuries must be reported to the health and safety officer in accordance with Universities policy on reporting of accidents.

RADIATION HAZARDS

1. Optical radiation

1.1 Exposure to optical radiation should be restricted by use of shielding. Where shielding is difficult, e.g. because an Employee works outdoor in the sun, personal protective equipment should be used / worn. The exposure of other persons in the vicinity must be considered and, where necessary, avoided.

2. Ultra-violet radiation

2.1 Electric arc welding often involves sources of intense UV radiation which may damage eyes and skin. As much as possible, the work-piece or work area should be shielded and those working in the area should wear eye protection. Access should be restricted, in so far as possible, to prevent others from entering the area unprotected.

3. Microwave equipment

3.1 There shall be arrangements for periodic examination of radiation levels outside microwave ovens. Damaged microwave ovens must be labelled as such, their plug removed (where this can be done safely) and a notice attached saying "FAULTY OVEN - DO NOT USE". A defective oven must not be used until fully repaired. Any fault / damage must be reported to the health and safety officer.