

APPENDIX 4

Mathematics & Statistics, CSSE, PAWSEY and
CSP

HEALTH & SAFETY MANUAL 2017

Table of Contents

1. Emergency Evacuation	2
2. High Risk Area Emergency Response	4
3. Evacuation of Individuals with Special Needs	4
4. Area Safety Infrastructure.....	5
5. Local Risk Register.....	7
6. Laboratories and Work Areas.....	9
7. Safe Purchasing	12
8. Imported Equipment.....	12
9. Plant and Equipment.....	13
10. Task and Activity Planning.....	14
11. Manual Handling and Ergonomics	15
12. Noise Compliance.....	16
13. Provision of Personal Protective Equipment.....	18
14. Asbestos Management.....	18
15. Bicycle Users.....	19

M&S, CSSE, PAWSEY, CSP Health and Safety Manual	Updated: 12/2016	Revision: 1.1
Authorised by: Chair Mark Reynolds / author R Greenhalgh	Review: 12/2017	Page 1 of 19

APPENDIX 1

Mathematics & Statistics, CSSE, PAWSEY and CSP

1. Emergency Evacuation

1.1 Emergencies, Incidents and Injuries

Emergency Information

CONTACT	TELEPHONE
UWA Emergency for Fire Brigade, Ambulance, Police	6488 2222 (24 hrs.)
UWA Security	6488 3020

Refer to the [Staff and Support](#) webpage of the UWA Safety, Health and Wellbeing website for further information including lists of safety personnel and a blank Building Safety Personnel Poster for completion and display in prominent locations.

In the event of fire

RAISE THE ALARM:

If safe to do so, ensure the immediate safety of anyone within the vicinity of the fire. Raise the alarm if not already sounding, using a break glass alarm panel or by shouting 'Fire, Fire, Fire' if a panel is not available. The alarm system automatically notifies the Fire and Rescue Services and also UWA Security (who then notify other emergency personnel).

Phone the UWA Emergency number extension 2222. Give your name, building, level, room number, type and extent of the fire/smoke and inform your supervisor or Building Warden if safe to do so.

FIRE FIGHTING:

If safe to do so and if trained in the use of fire equipment, attempt to extinguish the fire. Do not use fire hose reel, water or foam extinguishers on an electrical fire.

FIRE EXTINGUISHERS:

All fire extinguishers are tested to ensure reliability on a regular basis by a contractor sourced by Facilities Management. This equipment is provided to

M&S, CSSE, PAWSEY, CSP Health and Safety Manual	Updated: 12/2016	Revision: 1.1
Authorised by: Chair Mark Reynolds / author R Greenhalgh	Review: 12/2017	Page 2 of 19

extinguish minor fires only. If there is any risk from the fire the building must be evacuated. Before using a fire extinguisher read the instructions ensuring that it is appropriate to the type of fire:

- **Water Type Extinguisher** (colour coded red) - for use on paper, wood, textile and fabric fires only - not to be used on electrical or chemical fires.
- **Carbon Dioxide Extinguisher** (colour coded red with a black band) - for use on electrical and flammable liquids fire – Please note that this extinguisher can be safely used on all types of fires, however, when the carbon dioxide dissipates, re-ignition could occur.
- **Dry Powder Extinguisher** (colour coded red with a white band) - for use on electrical, flammable gases and flammable liquid fires.

FIRE BLANKETS:

Fire blankets are installed in the workplace for use on fires involving small quantities of flammable liquids. Such fuels are typically found in laboratories or kitchens. The effectiveness of the blanket depends on obtaining a good seal with the rim of the container. Fire blankets also provide a thermal barrier and are suitable for management of clothing fires.

EVACUATION:

Evacuate the building in accordance with the area evacuation procedure or as directed by the Building Warden. Proceed to the nearest exit, walking quickly and calmly to the assembly area and do not use the lifts. Close but do not lock doors and windows as you exit. Leave lights on.

Remain in the assembly area in groups until instructed to leave by a Warden or Fire and Rescue Services personnel.

Do not re-enter the building until informed that it is safe to do so by a Warden or Fire and Rescue Services personnel.

Incidents and Injuries

If contaminated with acids or alkalis, wash skin immediately with plenty of water then seek medical attention if required. Eyes splashed with any chemical must be washed with water for 15 mins and medical advice obtained immediately.

Ensure all incidents and injuries are reported to Supervisors and on a UWA Confidential Incident/Injury/Near Miss Report Form:

<http://www.safety.uwa.edu.au/incidents-injuries-emergency/notification>

M&S, CSSE, PAWSEY, CSP Health and Safety Manual	Updated: 12/2016	Revision: 1.1
Authorised by: Chair Mark Reynolds / author R Greenhalgh	Review: 12/2017	Page 3 of 19

2. High Risk Area Emergency Response

Currently, no high risk areas have been identified within the Schools and Centres covered by this Health and Safety Manual.

The Health and Safety Committee should remain vigilant to operational or research project changes within the area of jurisdiction that may affect hazards and risk. Any changes to emergency response should be reflected in this section of the Health and Safety Manual.

Any information provided should set out the steps that should be taken to isolate or shutdown a hazardous process in a controlled way to minimise the consequences should an emergency situation develop or if an external event occurs that may escalate throughout the building.

In addition, this information would provide awareness to the Building Emergency Control Organisation of the location of potential building hazards in emergency situations and the special considerations that may be required during evacuation and reporting.

3. Evacuation of Individuals with Special Needs

Since the area presides over Schools and Centres located in multi-storey buildings and the lifts cannot be used in an emergency situation, a plan must be outlined here to evacuate people with special needs, in particular staff or students in wheelchairs.

In addition, Emergency Control Organisation members must be aware of this plan and the names and locations of any physically impaired occupants who may reside in the building on a regular basis.

- 3.1** There are currently no staff or students with special needs with offices in these areas.
- 3.2** Area warden to ask what assistance the person requires. Area warden to provide assistance or co-opt a staff member to assist. Do not provide physical guidance, hold, lift or carry a conscious person without their permission.

If the person is reliant on a wheelchair and there is no access available to get down stairs, area warden or nominee, should wait with them in a fire isolated stairwell until security or emergency services arrive. Ensure that

M&S, CSSE, PAWSEY, CSP Health and Safety Manual	Updated: 12/2016	Revision: 1.1
Authorised by: Chair Mark Reynolds / author R Greenhalgh	Review: 12/2017	Page 4 of 19

the building warden is advised. Do not carry a person in their wheelchair down the stairs. Either wait for their advice on how to proceed or wait for emergency services.

If someone needs to be transferred or assisted from the floor, requiring a full body lift, wait for Security or emergency services unless trained to do a full body lift.

When area wardens are on leave the Building Warden will reassign wardens to cover that area or co-opt another member of staff to provide assistance.

4. Area Safety Infrastructure

A comprehensive local safety infrastructure exists within Mathematics & Statistics, CSSE, PAWSEY and CSP that is embodied through safety personnel and the Faculty safety systems working synchronously together. The combined Safety Personnel are listed as follows:

4.1 School Health & Safety committee (Chair Professor Mark Reynolds)

This committee meets bi-monthly and covers the following fixed agenda items, in addition to any other business that may arise affecting health and safety in the School.

- Incident/Accident/Near miss and Hazard Reports;
- Adequate Health and Safety Personnel to meet the requirements of the School;
- Induction, Training and Competency is ongoing and the School Health and Safety manual is maintained;
- Risk Assessments are ongoing at a School level, job safety analysis is conducted and safe systems of work are being practiced;
- Compliance Monitoring and improvement is ongoing through systems such as AS4801, Traffic Light and regular safety inspections and follow-up;
- Safety Culture and Compliance is regularly reviewed across the School;
- Strategic reporting is ongoing through the Faculty Safety Committee.

4.2 Head of School and Centre Directors

M&S, CSSE, PAWSEY, CSP Health and Safety Manual	Updated: 12/2016	Revision: 1.1
Authorised by: Chair Mark Reynolds / author R Greenhalgh	Review: 12/2017	Page 5 of 19

As the most senior managers in the School or Centre, they need to be well informed on all health and safety matters and be aware of all operations in the School or Centre and the associated hazards and risks. It is the duty of the Head of School or Director to have direct knowledge, or be assured that the reports and support provided to the position are adequate to eliminate or minimise the risks to workplace health and safety.

4.3 School Safety Officers

School Safety Officers may be appointed by the Head of School, Centre Director or the School Safety Committee to assist the Head of School, Centre Director or School Safety Committee discharge their safety duties. This is usually associated with nominated individuals having specific skills in the WHS area or making a significant contribution in a specific area such as biological, chemical, gas or radiation safety.

4.4 Fire Wardens

Fire wardens are recruited and monitored at a School or Centre level. The Health and Safety Committee must ensure that there are adequate wardens appointed to efficiently evacuate the School or Centre during an emergency.

The Faculty Technical Safety Team will keep Schools and Centres advised of the six-monthly training opportunities that are scheduled for Fire Wardens.

Note: Building Wardens will be appointed by the Faculty since a Building may include more than one School or Centre.

4.5 First Aid Officers

First Aid Officers are recruited and monitored at a School or Centre level. The Safety Committee must ensure that there are adequate First Aid Officers appointed to meet the response needs of Schools and Centres.

The Faculty Technical Safety Team will keep Schools and Centres advised of training and of re-qualification schedules for First Aid Officers.

First Aid Officers are entitled to receive a fortnightly allowance for their role. In this context, funding for qualification, re-qualification and First Aid Allowance will need to be approved by the Faculty.

4.6 Health & Safety Representatives

A staff member from the Faculty, School or Centre may accept nomination, or step forward to take on the role of Health and Safety Representative for

M&S, CSSE, PAWSEY, CSP Health and Safety Manual	Updated: 12/2016	Revision: 1.1
Authorised by: Chair Mark Reynolds / author R Greenhalgh	Review: 12/2017	Page 6 of 19

an area that they are familiar with within a School or Centre, and have the support of fellow workers.

Health and Safety Representatives represent the health and safety interests of workers – their duties are specifically defined by legislation and whilst they will cooperate with Faculty and School Management, their activities may not be directed from this level.

Health and Safety Representatives are granted one week's leave of absence to attend formal Health and Safety Representative training and also require adequate time during their daily work to perform their OHS duties.

4.7 Faculty Technical Safety Team

This team, under the leadership of Helen Medley, provides the guidance and support to Schools and Centres for the implementation of all safety processes and procedures to achieve OHS compliance.

Members of the team have a combination of technical and safety knowledge that is particularly relevant in the research and laboratory environment. Through regular audits, inspections, safe systems of work and record keeping, a strategic oversight of safety compliance and culture will be provided regularly to the Faculty and the School Safety Committee.

5. Local Risk Register

Mathematics & Statistics, CSSE, PAWSEY and CSP have a reduced level of hazards because of the nature of the work conducted. As such, many of the criteria listed in the UWA Risk Register do not apply to this area. The following information provides an overview of hazards and associated risk.

5.1 Hazards Types

5.1.1 Substances

- Possible asbestos and hazardous materials in building infrastructure.

5.1.2 Biological

- Biological research and activities;
- Infectious diseases.

5.1.3 Electrical

M&S, CSSE, PAWSEY, CSP Health and Safety Manual	Updated: 12/2016	Revision: 1.1
Authorised by: Chair Mark Reynolds / author R Greenhalgh	Review: 12/2017	Page 7 of 19

- Plant and equipment.

5.1.4 Physical

- Plant and equipment;
- Noise.

5.1.5 Psychosocial

- Occupational stress;
- Workplace bullying and harassment;
- Occupational violence;
- Fatigue.

5.2 Hazardous Locations

5.2.1 Workplace environment and facilities

- Potential asbestos legacy in roof spaces and building infrastructure;
- Original labelled asbestos-cement products retained in the building (see UWA Asbestos Register);
- Asbestos-clay floor tiles;
- Access to high roofs;
- Use of float glass in high traffic areas;
- Periodic damage to stair treads;
- Indoor storage and use of flammable, toxic and asphyxiant gas;
- Storage and use of hazardous corrosive, flammable, explosive, toxic and carcinogenic substances;
- Biological hazards i.e. work with animal and human materials of unknown pathology or acquired infections introduced from overseas destinations by traveling population;
- Rotating machinery causing impact, entanglement, entrapment, amputation or projectile injury including centrifuges;
- Electrical hazards associated with equipment powered from 240 V power outlets.

5.3 Hazardous Activities

5.3.1 Chemical, gas and biological processes;

5.3.2 Rotating machinery;

5.3.3 Electrical;

5.3.6 Manual handling/ergonomics;

M&S, CSSE, PAWSEY, CSP Health and Safety Manual	Updated: 12/2016	Revision: 1.1
Authorised by: Chair Mark Reynolds / author R Greenhalgh	Review: 12/2017	Page 8 of 19

5.3.7 After-hours work and working in isolation;

5.3.8 Travel and off-campus activities (includes Fieldwork & 4WD).

5.4 Groups at Risk

5.4.1 Staff, students, and visitors;

5.4.2 Contractors.

5.5 Other

5.5.1 Purchasing;

5.5.2 Emergency Incident;

5.5.3 Legal compliance (includes auditing).

6. Laboratories and Work Areas

6.1 Door Signs

All laboratories and workshops must have a standard UWA 'Safety Hazards in this Area' sign displayed on the entry door. This sign displays pictorials of the required Personal Protective Equipment (PPE) required to enter the area, the principle hazard groups and the contact details of the supervisor and deputy supervisor.

It is important to ensure that door signs are kept up to date and accurately reflect changes of both personnel and the hazards within the area.

6.2 Laboratory Classifications

All School workshops and laboratories will be assigned a classification related to the assessed hazards of the area and this classification will determine the inspection frequency. Classifications will be in accordance with the following categories:

Category 1 Low Risk;

M&S, CSSE, PAWSEY, CSP Health and Safety Manual	Updated: 12/2016	Revision: 1.1
Authorised by: Chair Mark Reynolds / author R Greenhalgh	Review: 12/2017	Page 9 of 19

Category 2 Medium Risk i.e. applies to the majority of areas with physical, chemical or gas hazards;

Category 3 High Risk i.e. applies to areas with elevated hazards related to the nature of the processes or types of substances used.

In addition to the risk category assignment, each area will be classified as Non-hostile or Hostile according to the UWA criteria for routine Electrical Testing and Tagging.

As a general rule, there would be an alignment between electrical Non-hostile or Hostile classifications and Category 1 or Categories 2/3 Risk areas respectively, and UWA advocates that regular workplace safety inspections are synchronised with the checking periods that are required for electrical equipment - this may be a direct relationship or as an integer multiple.

The UWA Wall Poster is a fundamental element of this process and displays the electrical Non-hostile or Hostile status of the area as well as the last and next dates of regular workplace inspection that have been assigned to the area. For further information please refer to the link below:

<http://www.safety.uwa.edu.au/topics/electrical-safety/testing-tagging-guidelines>

6.3 Access Authorisation

All laboratories and workshops are keyed individually to ensure that only individuals who have been given authorisation to enter these areas have been issued with the key. Provisions are in place to ensure that keys are only issued where there are records that the requester has completed the UWA on-line safety induction, the UWA proforma area Safety Induction or any other prerequisite training required for the area or the task.

In addition, it is a requirement that anyone provided with access to work unsupervised in a laboratory or workshop must be deemed competent. They must be fully aware of the area hazards and the process or task hazards and follow an approved safe system of work.

Staff or contractors attempting to gain access with master or sub-master keys must have the authorisation of the supervisor or deputy supervisor listed on door sign. Without this authorisation there is risk of the following breaches:

- Exposure to environmental, atmospheric hazards or injury;

M&S, CSSE, PAWSEY, CSP Health and Safety Manual	Updated: 12/2016	Revision: 1.1
Authorised by: Chair Mark Reynolds / author R Greenhalgh	Review: 12/2017	Page 10 of 19

- Disruption to experiments that adversely affect research outcomes;
- Research security.

6.4 After-hours Work

Sections 7.13 and 7.14 of the Faculty Health and Safety Manual detail the specific UWA requirements for Working Alone and After-hours Working; accordingly, individuals with the authority to approve this work should have a clear understanding of these provisions.

Researchers and students wishing to engage in After-hours work need to be aware that a Work Plan must be completed and submitted to the Head of School or project supervisor for approval. The Work Plan, in conjunction with a Risk Assessment clearly defines the safe boundaries of the proposed work outside of normal working hours (8:00 am to 5:00 pm). Work Plans may be accessed at:

<http://www.mech.uwa.edu.au/staff/safety/training/?a=1958116>

6.5 Storage of Gas Cylinders inside Laboratories and Work Areas

UWA adheres to GO8 guidelines on the storage and use of gas cylinders. It is standard practice to locate all gas cylinders outside the building and reticulate the supply lines into work areas at reduced pressure and with flow restrictors fitted. This includes Dangerous Goods Classes 2.1, 2.2, 2.3 and oxidising gases such as oxygen.

Under special circumstances there are exceptions to this rule that may arise from physical restrictions or operational requirements. In this case a UWA Chemical Process Risk Assessment will need to be submitted to UWA Safety, Health and Wellbeing along with an approval request outlining the special circumstances:

<http://www.safety.uwa.edu.au/management/?a=1849605>

In this case an approval is likely to require gas cylinders to be located in ventilated gas enclosures fitted with gas leakage monitoring equipment.

These requirements do not apply to portable gas welding trolleys being stored or used in well ventilated workshops.

The only gas cylinders permitted inside laboratories without dispensation are Lecture sized cylinders.

M&S, CSSE, PAWSEY, CSP Health and Safety Manual	Updated: 12/2016	Revision: 1.1
Authorised by: Chair Mark Reynolds / author R Greenhalgh	Review: 12/2017	Page 11 of 19

Note 1: Flammable gas cylinders for BBQ's may not be stored inside the building.

6.6 UWA Laboratory Safety Requirements

For more detailed information on UWA Laboratory Working Rules, please refer to the following link:

<http://www.safety.uwa.edu.au/topics/laboratory>

7. Safe Purchasing

The Faculty of Engineering, Computing and Mathematics has moved to the Requisite Purchasing System that has provision for the identification of potentially hazardous items that will require specific approvals.

All purchase orders placed containing items identified as hazardous will be directed to the Faculty Technical Safety team for approval and possible follow-up before order placement can occur.

Delays in the procedure can be minimised by the purchaser planning ahead for safety compliance prior to order placement. For chemical purchases this can be done by ensuring that the required chemicals are already listed or added to the ChemAlert database.

The following items are typical of purchases requiring safety approval:

- Chemical substances (including gas);
- Biological materials;
- Plant and equipment;
- Electrical equipment;
- Large or heavy items;
- Robotics equipment;
- Radiation (laser, transilluminator, heat, electric or magnetic fields, ionising radiation).

8. Imported Equipment

Traditionally, plant and equipment produced by overseas manufacturers was purchased through an Australian branch of the manufacturer or a local

M&S, CSSE, PAWSEY, CSP Health and Safety Manual	Updated: 12/2016	Revision: 1.1
Authorised by: Chair Mark Reynolds / author R Greenhalgh	Review: 12/2017	Page 12 of 19

representative. This organisation became the designated importer and assumed the legislative and safety compliance responsibilities.

Over recent years it is becoming more common for the School purchaser to place the order directly with the overseas manufacturer. Under these circumstances purchasers need to be aware that all of the legal obligations and responsibilities of the overseas designer and manufacturer are now transferred to the purchaser.

Furthermore, any piece of electrical plant or equipment that is listed in Appendix B of AS/NZS 4417.2.2009 as 'Prescribed' must be formally approved by a designated approval agency before importation. Further information on this process in Western Australia may be obtained from the following link:

<http://www.commerce.wa.gov.au/publications/electrical-appliances-and-equipment-importing-selling-or-hiring>

9. Plant and Equipment

Plant and equipment may be divided into two groups according to ownership and responsibility.

Plant and equipment that is part of the research equipment and instruments used by project groups, including workshop machines and equipment is the responsibility of the Faculty, Schools and Centres.

Plant and equipment that is part of the infrastructure of buildings, such as air conditioning, cranes and gantries, fume cupboards etc. is the responsibility of Facilities Management.

Plant and equipment that falls under the jurisdiction of the Faculty, Schools or Centres have associated legal compliance requirements that must be met by following the procedures and guidelines provided by UWA:

<http://www.safety.uwa.edu.au/topics/plant>

Risk Assessments are required to be carried out on all plant and equipment falling under the jurisdiction of the School or Centre and identified as either Hazardous or Non-hazardous.

Items identified as hazardous will require Standard Operating Procedures (SOP's) to be written and displayed next to the plant or equipment. In addition, a

M&S, CSSE, PAWSEY, CSP Health and Safety Manual	Updated: 12/2016	Revision: 1.1
Authorised by: Chair Mark Reynolds / author R Greenhalgh	Review: 12/2017	Page 13 of 19

Method Statement may need to be produced for complex processes to ensure that users/operators follow a defined safe procedure when using the equipment.

SOP's and Method Statements will become valuable documents and sources of information for the training of users/operators. These documents will also reference to Emergency Procedures that detail safe shutdown steps for complex or hazardous processes that may be required in cases of emergency or accident.

9.1 Plant and Equipment Inspection, Testing and Monitoring

All plant and equipment falling under the jurisdiction of the Faculty or the School must be maintained in a safe working condition and requires records of repairs and scheduled maintenance, inspection and testing.

The Inspection, testing and monitoring period for plant and equipment should be based on the manufacturer's recommendations, the type of operating environment and the usage of the equipment.

The following items should be tested at the indicated periods:

- Bio-safety cabinets – annually;
- Centrifuges – annually;
- Flashback arrestors – annually;
- Emergency eyewash and shower equipment in accordance with ANSI Z358.1.

The School should be aware that critical items of plant and equipment are subject to additional provisions in their maintenance and inspection since their failure may impact seriously on the safety of workers.

This provision requires that contractors must be able to demonstrate they have the required training, certification and competency to engage in the work they are being asked to undertake.

10. Task and Activity Planning

In order to achieve legislative compliance and to satisfy UWA requirements it is necessary to follow the UWA Task and Activity Planning Toolkit for all workplace tasks undertaken to ensure that there is a safe system of work in place and that workers are competent:

M&S, CSSE, PAWSEY, CSP Health and Safety Manual	Updated: 12/2016	Revision: 1.1
Authorised by: Chair Mark Reynolds / author R Greenhalgh	Review: 12/2017	Page 14 of 19

<http://www.safety.uwa.edu.au/management/toolkit>

A structured and planned approach to Workplace Health and Safety will ensure that all area and task hazards are identified and risk assessed prior to commencement of work.

The Task and Planning Toolkit have been developed to provide supervisors and workers with a consistent set of tools to achieve compliance. These tools comprise the following:

- Standard Operating Procedures (SOP) – usually a one page document displayed next to hazardous equipment or processes. The SOP provides information, identifies risk and establishes control measures and can be used as a training and recording tool;
- Method Statement – a particularly useful document when complex tasks need to be performed regularly, or in a consistent way. In this case the worker is adopting a standard approach to completing the task with due regard for hazards and applying the necessary controls;
- Risk Assessment – It is the responsibility of Managers and Supervisors to consult with Workers to ensure that the hazards in the task or activity are identified and risk assessments are carried out to reduce risk to acceptable levels before work commences.

11. Manual Handling and Ergonomics

11.1 Manual Handling

Many people overlook the importance of manual handling injuries, but they are one of the most common injuries in the workplace and account for the most lost time.

UWA requires that staff receive training in the manual handling techniques required for their job. A worker should not be expected to lift anything weighing greater than 10 Kg and no worker should be expected to lift an item that they feel is outside their comfort or ability.

It is the Manager or Supervisor's responsibility to assess the risk and implement risk control strategies in any situation requiring a worker to perform a manual handling task that is new or unfamiliar.

M&S, CSSE, PAWSEY, CSP Health and Safety Manual	Updated: 12/2016	Revision: 1.1
Authorised by: Chair Mark Reynolds / author R Greenhalgh	Review: 12/2017	Page 15 of 19

Managers or Supervisors requesting office relocations must comply with the following UWA procedures:

http://www.safety.uwa.edu.au/_data/assets/pdf_file/0006/2586003/Office-Relocation-Procedure.pdf

11.2 Ergonomics

Exposure to ergonomic hazards in the workplace is not uncommon and often goes unnoticed. Working over extended periods with poor work technique or using poorly designed or inappropriate tools, equipment or work stations can result in progressive long-term injuries.

It is the responsibility of Managers and Supervisors to work with the staff under their authority to ensure that these issues are identified and reported early. In addition, to provide training where necessary and to ensure that the equipment provided is fit for purpose.

In the case of both manual handling and ergonomics further advice may be obtained by contacting the Manager of Injury Management and Wellbeing on (+61 8) 6488 4683 or visiting the Safety, Health and Wellbeing web site at:

<http://www.safety.uwa.edu.au/contact/staff-profiles>

12. Noise Compliance

In accordance with the WA Occupational Health & Safety Regulations and the National Code of Practice for Managing Noise and Preventing Hearing Loss at Work, Schools have a responsibility to ensure that noise exposure in the workplace does not exceed the following exposure standard.

12.1 Noise Exposure Standard

- LAeq,8h of 85 dB(A) (85 decibels for 8 hours);
- LC,peak of 140 dB(C) (140 decibels peak).

This table demonstrates the length of time a person without hearing protection can be exposed before the standard is exceeded.

Equivalent Noise Exposures LAeq,8h = 85 dB(A)																		
Noise Level	80	82	85	88	91	94	97	100	103	106	109	112	115	118	121	124	127	130

M&S, CSSE, PAWSEY, CSP Health and Safety Manual	Updated: 12/2016	Revision: 1.1
Authorised by: Chair Mark Reynolds / author R Greenhalgh	Review: 12/2017	Page 16 of 19

Mathematics & Statistics, CSSE, PAWSEY and CSP Health and Safety Manual

Exposure Time	16h	12h	8h	4h	2h	1h	30m	15m	7.5m	3.8m	1.9m	57s	28.8s	14.4s	7.2s	8.8s	1.8s	0.9s
---------------	-----	-----	----	----	----	----	-----	-----	------	------	------	-----	-------	-------	------	------	------	------

To ensure that personnel are not exposed to noise levels exceeding the National Noise Exposure Standard, Schools are required to employ the Noise Treatment Plan

below in accordance with AS/NZS 1269.1:2005 Measurement and Assessment of Noise Emission and Exposure. The Plan aims to reduce exposure to noise by treatment of the source, treatment of the noise transmission path and treatment at the receiver.

12.2 Risk Treatment Plan

Control	Description
1. Elimination	Buy Quiet Policy - In accordance with the UWA Plant & Equipment Safety Procedures and Safety Requirements for Purchase of Plant Guidelines, noise emissions shall be considered as part of planning of work processes and selection of plant. Information on noise emissions can be obtained from the manufacturer and should be included in the risk assessment and purchase decision. Where practicable, plant with low noise emissions should be purchased.
2. Substitution	Buy Quiet Policy – In accordance with the UWA Plant & Equipment Safety Procedures, where practicable, noisy plant, when being replaced, should be replaced with plant that has low levels of noise emission. Where practicable, noisy work processes or environments should be substituted for ones that are quieter.
3. Isolation	Access of personnel to noisy work environments/plant will be restricted by barriers. Noisy work environments shall have Noise Warning and Mandatory Hearing Protection Signage installed in accordance with AS1319 Safety Signs for the Occupational Environment.
4. Engineering	Where practicable, the design and maintenance of plant shall ensure the sources of noise such as mechanical vibration and fluctuations in pressure and velocity of gases and liquids are minimised. Where practicable, noise enclosures, silencers, screens and sound absorbing surfaces will be installed on and surrounding all noisy plant. The below lists possible examples: <ul style="list-style-type: none"> • Regular maintenance to repair loose and rotating parts, replace worn bearings and gears. • Using plastic bumpers to eliminate metal-to metal contact. • Use of noise barriers, noise enclosures, vibration isolation mountings, laggings, mufflers and silencers where appropriate to reduce noise at source. • Using wear resistant rubber or plastic coatings to absorb acoustic shock. • Fully enclosing plant with sound-reducing enclosures. • Using sound-absorbing material on floors, ceiling and/or walls to reduce the sound level due to reverberation. • Using acoustical silencers in intake and exhaust systems associated with gaseous flow activity, for example, internal combustion exhaust systems or air conditioning systems.
5. Administrative	Personnel shall be provided with training, awareness and information on the hazards of excessive noise and instruction on how to use hearing protection. Regular monitoring of work environment noise levels shall be undertaken using noise testing equipment and exposure times of persons working in that environment will be recorded. Personnel exposed to excessive noise levels shall undergo audiometric/baseline hearing tests on commencement and during their employment to monitor potential hearing damage.
6. PPE	Hearing protection complying with AS/NZS1269 &1270 shall be provided to staff exposed to excessive noise levels – ear plugs and ear muffs shall be worn (double hearing protection) by all personnel exposed to excessive noise levels.

M&S, CSSE, PAWSEY, CSP Health and Safety Manual	Updated: 12/2016	Revision: 1.1
Authorised by: Chair Mark Reynolds / author R Greenhalgh	Review: 12/2017	Page 17 of 19

13. Provision of Personal Protective Equipment

Following on from Risk Assessments that are part of the Task and Activity planning process, it is likely that some risks may not be fully mitigated by the available control measures – in this case PPE will be required.

Supervisors have primary responsibility for the provision of PPE to workers in laboratories and areas where PPE is a prerequisite for entry. In this case PPE should be resourced as part of the operational budget and made available to personnel working in these areas.

Responsibility for training, maintenance and storage associated with PPE also falls on the Supervisor for the area where the PPE is used.

Additionally, PPE stocks will also be held by the Faculty Technical Safety Support Team and made available for intermittent use, or when unexpected requirements arise.

14. Asbestos Management

Many of the buildings in the Faculty of Engineering were constructed before current legislation regulating the use of asbestos products. From the late 1990's UWA has engaged in a rigorous programme to eradicate all materials containing asbestos from the workplace; however, some asbestos cement and asbestos composite materials still remain in the fabric of some buildings.

Campus Management conducts five yearly Asbestos Audits and maintains an Asbestos Register that lists the source and location of all remaining materials. Since the condition of these materials is checked regularly and are mostly bound in a stable matrix, they do not present a health risk to building occupants if they remain undisturbed.

In all cases material containing asbestos has a small asbestos warning sticker displayed adjacent to the source, including the asbestos clay vinyl floor tiles found in the older buildings. Regular maintenance and resealing schedules are in place and Campus Services ensures that all vinyl floor tiles are maintained in good condition.

Building occupants are encouraged to refrain from any activities that may damage or abrade floor surfaces if asbestos-clay vinyl tiles are fitted as this will

M&S, CSSE, PAWSEY, CSP Health and Safety Manual	Updated: 12/2016	Revision: 1.1
Authorised by: Chair Mark Reynolds / author R Greenhalgh	Review: 12/2017	Page 18 of 19

release fibres i.e. dragging heavy items across the floor such as furniture or using swivel chairs with wheels and without a protective mat.

In addition, do not drill or abrade any structural materials in buildings and be sure to report any suspicious materials that may be discovered in storage areas if there is concern that they may contain asbestos.

15. Bicycle Users

Finally, with the increasing popularity of bicycle transport over recent years bicycle users are reminded that building regulations do not permit riders to wear clip-in shoes on stairs because of the high risk of slips and injury. If you need to take your bike to an upper floor, then use the lift.

M&S, CSSE, PAWSEY, CSP Health and Safety Manual	Updated: 12/2016	Revision: 1.1
Authorised by: Chair Mark Reynolds / author R Greenhalgh	Review: 12/2017	Page 19 of 19