

Risk Assessment Safety Management **Standard Practice Instruction**

1.0 Purpose

To guide the general risk assessment process.

2.0 Scope

General activities and workplaces throughout AU where specific risk assessment procedures are not in place to cover the requirements of the Health and Safety at Work Regulations 1999, where employers are required to carry out a suitable and sufficient assessment of the risks to the health and safety of any employee or other person who may be affected by any work activity.

Note: there are other statutory requirements for certain specific risks, all of which have their own requirements and format for risk assessment. If these assessments are relevant to the activities being assessed by this SPI, then they can be undertaken separately and referenced in this assessment. These specific areas are: Asbestos; Ionising radiation; Lead; Noise; Substances hazardous to health (COSHH); Display screen equipment; Manual handling; Personal protective equipment; Genetically-modified organisms; Working in confined spaces. Sometimes these risk assessments can be combined (e.g. manual handling and PPE), in other cases this would not be appropriate (e.g. Manual handling, Ionising radiation and GMOs).

This practice is intended to be used for situations where hazards appear to pose a significant threat and it is uncertain whether existing or planned controls are adequate in principle or in practice. The full practice is NOT necessary or cost-effective when it is quite clear from preliminary study that risks are trivial, or a previous assessment has shown that existing or planned controls:

- 1) conform to well-established legal requirements or standards;
- 2) are appropriate for the tasks;
- 3) are, or will be, understood and used by everyone concerned;

Here no further action is required other than to ensure, where appropriate, that controls continue to be used. Small, low risk departments or other units in particular should be selective in the risks that they choose to assess in detail.

Effort devoted to assessment of trivial risks or to evaluation of standard controls will lead to collection of more information than can practically be used, and to situations where important facts are lost in a mass of spurious documentation.

3.0 Responsibility

Managers; Supervisors; Section Heads; Project Officers; Safety Officers.

4.0 Practice

4.1 Identify and define the work activity that is to be assessed.

The assessed activity may be defined by the particular functions carried out by a department or section (e.g. a process or operation using an item of plant or equipment); by the work undertaken in a defined area; or the work carried out by individuals or groups of people (e.g. maintenance, operations staff, office or warehouse staff). These can form the basis for *generic* risk assessments that can be applied to similar activities. Record the information on the form 'AU-HSE-RA-FORM1.doc'

4.2 Identify known and reasonably foreseeable Hazards.

The hazards may be identified by analysing the various jobs that people do, by inspection of the work place; talking to operators; consulting MSDS or reference books; assessing current procedures; analysing accident or incident reports.

List the hazardous agents, substances, equipment, machines and tools or the processes themselves (e.g. working at heights or in confined spaces) on the form 'AU-HSE-RA-FORM1.doc'. See Table 1 for further examples.

4.3 Identify Persons at Risk

Who is put at risk by the activity? The operator, bystanders, visitors, etc. Are there any individuals or groups of people at particular risk? e.g. does a medical condition present extra danger if working alone? Any life-threatening allergies, e.g. to beestings? Could children have unsupervised access to the work area?

4.4 Identify Hazard effects - the Consequences of the hazard causing harm.

What is the nature of the harm that could result from the hazard? Is it trivial, such as a small scratch? Or is it very serious, such as an amputated limb? Assign the extent of each consequence on the form 'AU-HSE-RA-FORM1.doc'

H (High) = Possible death or long term adverse effect on body or health

M (Medium) = Injury/illness with no foreseeable long term effect

L (Low) = Minor injury, no time off, or no injury.

See Table 2 for further examples to help guide the assignment.

4.5 Assess the Likelihood of harm resulting from the hazards.

What is the probability that the harm will occur? Is it very likely, such as every time the activity is undertaken? Or is it most unlikely, once every few years in a job taking place daily? Assign the likelihood for each consequence on the form 'AU-HSE-RA-FORM1.doc'

H = High probability

M = Medium probability

L = Low probability

Take into account factors such as the operator's experience; equipment reliability; environmental conditions; people at special risk (pregnancy, disabled etc).

4.6 Calculate the **Risk**, whereby:

HxH = H

HxM or MxH = H

HxL or LxH = M

MxM = M

MxL or LxM = M

LxL = L

Enter the results on the form 'AU-HSE-RA-FORM1.doc'

4.7 Minimise the risk by selecting adequate measures.

Bear in mind that avoiding risk is the most desirable, and personal protective equipment (PPE) is the least desirable. Some factors to be considered are given in Table 3.

4.8 Assess the Residual risk for each hazard.

What is the risk for each hazard following risk minimisation? Note that Low or Negligible risks can be attained when the Consequences of a Hazard are classed as High, only if significant changes or controls are introduced (such as removal of the hazard altogether). This is a matter for judgement and not use of the scheme in 4.5 alone.

Enter the conclusions on the form 'AU-HSE-RA-FORM1.doc'

H = High risk
M = Medium risk
L = Low risk
N = Negligible risk

4.9 Evaluate Residual Risk and assess the job.

Determine the overall residual risk and make an overall decision based on the residual risks and enter the results on the form, AU-HSE-RA-FORM2.doc

4.10 Identify and evaluate the arrangements, work systems, procedures, instructions or other controls that are being used or will be used.

Decide whether the existing arrangements, procedures and rules (including measures developed under 4.6) are appropriate in the context of the nature and degree of hazards and risks. Safety precautions are likely to be of adequate level if they meet relevant statutory requirements, if they follow recognised industry good practice or reflect the manufacturer's or supplier's instructions in the case of articles, equipment, machines, etc. that are to be used for their designed or intended purpose. If the assessment concludes that existing or proposed safety precautions are inadequate, the additional or alternative precautions will need to be developed and a new risk assessment performed based on the changes. Record all reference documents and procedures on the form, AU-HSE-RA-FORM2.doc. Assessor/s and the appropriate Manager should sign the completed risk assessment. The risk assessment and control measures should be brought to the attention of all those concerned.

4.11 Review

The risk assessment will need to be reviewed at a regular interval to determine whether it is still accurate. Changes may have occurred to law, personnel, working environment etc, that would necessitate another risk assessment. Record the review date and responsibility on the form, AU-HSE-RA-FORM2.doc

5.0 References

5.1 AU General Risk Assessment – Data Form. 'AU-HSE-RA-FORM1.doc' (see Appendix A)

5.2 AU General Risk Assessment – Final Assessment and Controls Form- AU-HSE-RA-FORM2.doc (see Appendix B)

5.3 HSE – Five steps to risk assessment INDG163 (v2) 2006

<http://www.aber.ac.uk/safety-environment/docs/public/indg163%28v2%29.pdf>

6.0 Records

Risk assessment records will be filed in the local files as established by the manager or supervisor.

Tables are given on the following pages.

Table 1. Examples of Hazards

- a) slips/falls on the level;
- b) falls of persons from heights;
- c) falls of tools, materials, etc, from heights;
- d) inadequate headroom;
- e) hazards associated with manual lifting/handling of tools, materials, etc.;
- f) hazards from plant and machinery associated with assembly, commissioning, operation, maintenance, modification, repair and dismantling;
- g) vehicle hazards, covering both site transport, and travel by road;
- h) fire and explosion;
- i) violence to staff;
- j) substances that may be inhaled;

- k) substances or agents that may damage the eye;
- l) substances that may cause harm by coming into contact with, or being absorbed through, the skin;
- m) substances that may cause harm by being ingested (i.e., entering the body via the mouth);
- n) harmful energies (e.g., electricity, radiation, noise, vibration);
- o) work-related upper limb disorders resulting from frequently repeated tasks;
- p) inadequate thermal environment e.g. too hot;
- q) lighting levels;
- r) slippery, uneven ground surfaces;
- s) inadequate guard rails or hand rails on stairs;
- t) contractors' activities.
- u) stress
- v) animals

The above list is NOT exhaustive.

Table 2. Possible Consequences of harm arising from the hazard

Information obtained about work activities is a vital input to risk assessment. When seeking to establish potential severity of harm, the following should also be considered:

- a) part(s) of the body likely to be affected;
- b) nature of the harm, ranging from slightly to extremely harmful:
 - 1) slightly harmful e.g.
 - superficial injuries; minor cuts and bruises; eye irritation from dust;
 - nuisance and irritation (e.g. headaches); ill-health leading to temporary discomfort;
 - 2) harmful, e.g.:
 - lacerations; burns; concussion; serious sprains; minor fractures;
 - deafness; dermatitis; asthma; work related upper limb disorders; ill-health leading to permanent minor disability;
 - 3) extremely harmful, e.g.:
 - limb amputations; major fractures; poisonings; multiple injuries; fatal injuries;
 - occupational cancer; other severely life shortening diseases; acute fatal diseases.

Table 3. Controls should be chosen taking into account the following :

- a) if possible, eliminate hazards altogether, or combat risks at source e.g., use a safe substance instead of dangerous one;
- b) if elimination is not possible, try to reduce the risk e.g. by using a low voltage electrical appliance.
- c) where possible adapt work to the individual, e.g. to take account of individual mental and physical capabilities;
- d) take advantage of technical progress to improve controls;
- e) measures that protect everyone;
- f) a blend of technical and procedural controls is usually necessary;
- g) the need to introduce planned maintenance of, for example, machinery safeguards;
- h) adopt personal protective equipment only as a last resort, after all other control options have been considered;
- i) the need for emergency arrangements (and the details if necessary);

APPENDIX A

AU General Risk Assessment Form

Brief Description of Activity:			Assessor/s		Date	
Hazard <i>List what could cause harm from this activity, use appendix A to assist in identifying hazards</i>	Persons at risk <i>List who might be harmed eg staff, students, visitors</i>	Risk factor <i>For each hazard, decide level of risk as if you were to do the activity without controls, see appendix B</i>			Control measures required <i>For each hazard. List the measures you will be taking to minimise the risk identified, e.g. appointing competent persons, training received, planning and try-outs, use of personal protective equipment</i>	Residual Risk <i>For each hazard now decide the residual risk after the control measures are in place</i>
		Severity	Likelihood	Risk		

APPENDIX A

AU General Risk Assessment Form

Signed		Date		Date for review of risk assessment			

APPENDIX A

AU General Risk Assessment Form

Appendix A

Hazard list – Use this table to help you identify hazards, you may think of others not on this list, use these to complete the risk assessment form					
Situational hazards	Tick	Physical / chemical hazards	Tick	Health hazards	Tick
Assault by person		Contact with cold liquid / vapour		Disease causative agent	
Attacked by animal		Contact with cold surface		Infection	
Breathing compressed gas		Contact with hot liquid / vapour		Lack of food / water	
Cold environment		Contact with hot surface		Lack of oxygen	
Crush by load		Electric shock		Physical fatigue	
Drowning		Explosive blast		Repetitive action	
Entanglement in moving machinery		Explosive release of stored pressure		Static body posture	
High atmospheric pressure		Fire		Stress	
Hot environment		Hazardous substance		Venom poisoning	
Intimidation		Ionising radiation			
Manual handling		Laser light		Environmental hazards	
Object falling, moving or flying		Lightning strike		Litter	
Obstruction / exposed feature		Noise		Nuisance noise / vibration	
Sharp object / material		Non-ionising radiation		Physical damage	
Shot by firearm		Stroboscopic light		Waste substance released into air	
Slippery surface		Vibration		Waste substance released into soil / water	
Trap in moving machinery					
Trip hazard		Managerial / organisational hazards			
Vehicle impact / collision		Management factors			
Working at height					

Appendix B

Risk matrix – use this to determine risk for each hazard i.e. ‘how bad and how likely’	Likelihood of Harm				
	Remote	Very unlikely	Unlikely	Possible	Likely
Severity of Harm					
Negligible e.g. small bruise	Very low	Very low	Very low	Low	Low
Slight e.g. small cut, deep bruise	Very low	Very low	Low	Low	Medium
Moderate e.g. deep cut, torn muscle	Very low	Low	Medium	Medium	High
Severe e.g. fracture, loss of consciousness	Low	Medium	High	High	Extremely high
Very Severe e.g. death, permanent disability	Low	Medium	High	Extremely high	Extremely high

APPENDIX B

Final Assessment and Controls Form



Activity:	Assessor/s	Date
FINAL ASSESSMENT:		OVERALL RISK
Reference Documents and Procedures to be followed:		
Signature/s of Assessor/s	Signature of Manager	Date for review of risk assessment: Responsibility: