



## HEALTH AND SAFETY RISK ASSESSMENT GUIDELINES

### PURPOSE

These guidelines support the *Health and Safety Policy* and *Health and Safety Management Standards* and provide assistance to the University.

The purpose of this guideline is to document the process of hazard identification, risk assessment and control to effectively manage and reduce the risk of injury, illness, property damage or damage the environment.

### DEFINITIONS

**Hazard:** a situation that has the potential to harm a person, interrupt business or cause damage to the environment, business reputation or property;

**Hierarchy of control:** A range of control measures used to control risk to the lowest reasonably practicable level. In most cases a combination of elimination (most effective), substitution, engineering controls, administrative controls and Personal Protective Equipment (least effective) are chosen to control risks;

**Residual Risk Rating:** residual risk is defined as low, medium, high or extreme based on the University Health and Safety Risk Matrix after recommended corrective actions or controls have been implemented;

**Risk:** the likelihood and consequence of that injury or harm occurring;

**Risk Assessment:** overall process of risk identification, risk analysis and risk evaluation;

**Risk Control:** the method used to eliminate or reduce the level of risk. Health and safety risk controls should be implemented considering the hierarchy of controls;

**Risk Rating:** is defined as low, medium, high or extreme based on the University Health and Safety Risk Matrix prior to any corrective actions or controls being implemented.

### 1. Risk Management

Risk management involves conducting hazard identification and risk assessment and implementing, monitoring and reviewing control measures to reduce risks. Risk management is necessary to identify hazards in the workplace that could create health and safety risks and to take reasonable practicable steps to control the risks and monitor the effectiveness of the control measures.

### 2. Risk Assessment Process

Risk assessment is the overall process of risk identification, risk analysis and risk evaluation.

A risk assessment is used to systematically identify all of the risks associated with a task, activity or process. Appropriate controls and responsibilities for implementing those controls are identified within the risk assessment and the completed document must be made



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available to all stakeholders involved to ensure the information is effectively and appropriately communicated.

### 3. When to assess Risk

Risk assessments should be undertaken at various times, including:

- If the task has not been attempted before;
- When a hazard has been identified;
- When a change in the workplace may introduce or change a hazard;
- As part of responding to a workplace incident, even when an injury has not occurred;
- When new information about a hazard becomes available or concerns about a hazard are raised by workers;
- At regularly scheduled times appropriate to the workplace.

#### 3.1 Identify the activity/task and location

Consultation should occur between the affected workers, area management and the Safety and Health Representative (SHR) regarding the process/es. All hazards should be identified. In general, hazards are likely to be found in the following:

- Physical work environment;
- Equipment, materials or substances used;
- Work tasks and how they are performed;
- Work design and management;
- Emergency situations.

Hazards may be identified by:

- Past incidents or accidents;
- Employee consultation to identify what they consider are safety issues;
- Workplace inspections;
- Information regarding the equipment being used (user manual or operating guides);
- Material safety data sheets.

Insufficient information about a hazardous work process may lead to an incomplete risk assessment. Ensure that workers understand the work process and play an active role in the risk assessment process.

#### 3.2 Assess the risk of the activity/task

When conducting the risk assessment, consider the following questions:

- What are the likely consequences of the hazard i.e. what types of injuries or illnesses are likely to result?
- How many people are exposed to the hazard;
- What is the likely severity of any injury, illness or damage;



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- How often or how long is the worker exposed to the hazard, e.g. intermittently or continuously?
- Does anyone exposed to the hazard have particular characteristics that may increase their risk, e.g. are they experienced, do they have ongoing health concerns?
- What risk control measures are already in place?
- If risk control measures are in place, are they sufficient to eliminate or adequately reduce the risk?
- What action should be taken to control a risk?
- How urgent does action need to be taken? (this is determined by the risk assessment and rating the risks).

When completing a risk assessment for a task or process, it may be necessary to complete multiple individual risk assessments in order to determine the combined risk associated with the activity. For example in a workshop environment a plant risk assessment, chemical risk assessment and manual task risk assessment may all need to be conducted for one process.

If an assessment is being made of a work task that requires specialist skills or knowledge, a person or persons who are qualified or competent to do so should be involved, e.g. confined space entry.

### 3.3 Risk Rating

Rating the risk helps to prioritise the implementation of control measures. Hazards carry different levels of risk, which range from low to extreme. The Health and Safety [Risk Matrix](#) will enable you to rank the hazards according to:

- The likelihood of an incident occurring, and
- The likely consequences if an incident does occur.

### 3.4 Determining Likelihood

To determine how likely an incident is to occur, consider:

- Whether the event may occur only in exceptional circumstances;
- The event is unexpected, but may occur at some time;
- The event may occur at some time;
- The event will probably occur in most circumstances;
- The event is expected to occur or has occurred and is continuing to impact;
- How often the task is undertaken;
- How often people are near or exposed to the hazard;
- How close people get to the hazard;
- Whether an incident has ever occurred as a result of the hazard, either in your workplace or somewhere else and if so, how often;
- The number of people who are exposed to the hazard;
- The number of people who could be harmed as a result of an incident, including visitors etc.



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### 3.5 Determining Consequence

To determine the most likely injury or harm that would result from an incident, consider:

- The type of harm that could occur; e.g. strain, amputation, fatality
- How severe that harm is likely to be;
- What factors could influence the severity of harm, e.g. the distance someone might fall;
- Whether the harm would be likely to occur as soon as something goes wrong or would take time to become apparent;
- Whether an incident could lead to other hazards, e.g. failure of electrical supply will stop exhaust ventilation;
- Whether a small incident could escalate to a much larger incident with more serious consequences.

### 3.6 Using the Health and Safety Risk Matrix

#### 1. Using Table 1; look at the POTENTIAL CONSEQUENCE.

- To ensure that health and safety risk is looked at in a uniform manner, you must use the criteria listed in the table. For example, you are aware that there are heavy items to be loaded, as well as numerous items that need to be stored on the roof racks. You decide that this could cause an injury that could potentially lead to injury or illness requiring medical treatment or lost time less than 10 days. Hence the consequence is “Minor”.

#### 2. Next, look at LIKELIHOOD.

- This is the predicted likelihood of the risk event occurring. This must be determined by using the criteria listed in the table. For example, you may be looking at the risk of muscular skeletal injury whilst loading the car. You determine that it is “Possible” that an injury may occur (remember that this is without any controls in place).

#### 3. Once you have determined both the consequence and the likelihood you combine them using the risk matrix to determine the RISK RATING.

- For example: if you have determined that the consequence of a musculoskeletal injury is “Minor” and the likelihood of this injury occurring is “Possible” and the resulting risk rating is Medium.

#### 4. After identifying the risk rating, apply the appropriate RISK MANAGEMENT ACTION.

- In the case of the above example: A mitigation plan shall be developed. Control strategies are implemented and periodically monitored.

**Table 1 – Health and Safety Risk Matrix**

		LIKELIHOOD DESCRIPTION					
		LIKELIHOOD	The event may occur only in exceptional circumstances	Not expected but the event may occur at some time	The event could occur at some time	The event will probably occur in most circumstances	The event is expected to occur or has occurred and is continuing to impact
IMPACTS		Likelihood Level					
Health and Safety			Rare	Unlikely	Possible	Likely	Almost Certain
CONSEQUENCE DESCRIPTION	Fatality Permanent Total Disability	<b>Critical</b>				<b>Extreme</b>	
	Significant/extensive injury or illness. Permanent Partial Disability	<b>Major</b>			<b>High</b>		
	Serious injury or illness. Lost time injury >10 days	<b>Moderate</b>		<b>Medium</b>			
	Injury or illness requiring medical treatment Lost time injury <10 days	<b>Minor</b>	<b>Low</b>				
	Injury or illness requiring First Aid treatment No lost time injury days	<b>Insignificant</b>					

**Risk Response:** Apply the appropriate response based on the assessed Risk Level

RISK MANAGEMENT ACTION	
RISK LEVEL	RESPONSE
<b>Extreme</b>	Immediate action required to reduce exposure. A detailed mitigation plan must be developed, implemented and monitored by senior management to reduce the risk to as low as reasonably practical.
<b>High</b>	A mitigation plan shall be developed and authorised by area manager or supervisor to reduce the risk to as low as reasonably practical. The effectiveness of risk control strategies shall be monitored and reported to management and relevant committee.
<b>Medium</b>	A mitigation plan shall be developed. Control strategies are implemented and periodically monitored.
<b>Low</b>	Manage by documented routine processes and procedures, monitor periodically to determine situation changes which may affect the risk



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### 3.7 Hierarchy of Control

Once you have assessed all the hazards, controls must be implemented to eliminate or if that is not reasonably practicable, minimise the risk by other means. Use the hierarchy of control to determine the most appropriate risk control measures for each hazard.

- Elimination (most effective) - removing the hazard
- Substitution, - substitute as substance, method or material;
- Engineering controls, - separate the hazard from the workplace or people, modify existing machinery or plant or purchase different plant or equipment;
- Administrative controls – develop a safe operating procedure, rotate the workers through the job, worker training and
- Personal protective equipment (the lowest level of protection) – gloves, helmets, safety glasses, safety boots.

Consultation with workers is required in the selection and implementation of control measures in the workplace.

For the aforementioned example suitable controls may be:

**Engineering** - items separated into constituent parts therefore making lighter and smaller loads

**Administration** - use two people to lift items onto and off the roof rack and the heavier items that cannot be separated to be loaded into the boot of the car rather than onto the roof rack.

### 3.8 Monitoring and Review

In order to assess if the risk controls will be sufficient to reduce the risk, the activity must be reassessed using the risk matrix.

Once control measures have been implemented, monitoring must be conducted to ensure the measures:

- are complied with by workers;
- have been properly implemented;
- continue to adequately manage the risks; and
- have not introduced any other hazards into the workplace.

Hazard identification, risk assessment and control is an on-going process and regular reviews of the effectiveness of your hazard assessment and control needs to be undertaken. A review should also be undertaken when:

- a change in the process or substances used occurs;
- an incident or accident occurs;
- a legislative requirement changes;
- a cause for concern among staff and students occurs.



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### 4. Further Information

The HSEM [webpage](#) has a number of risk assessment templates that can be used to assist with the risk assessment process.

Once completed, risk assessments should be approved by the Manager/Supervisor of the area, and made available to staff/students who work in the area. Safe Work/Operating Procedures should be developed, based on risk assessments, for regularly repeated tasks or for processes related to frequently used equipment.

All research, (even that which does not involve hazardous materials) requires a risk assessment to be completed. This is to ensure that you identify the hazards associated with your research and that appropriate controls are put in place. Should your research be classed as [fieldwork](#), please complete the fieldwork documentation found via the HSEM webpage.

Area Risk Registers are to be made available to all staff and/or students who work in the area as part of their induction process and updates provided to those affected as the risks and controls change.

### 5. Responsibilities

All levels of staff at Curtin University have responsibilities in relation to Health and Safety; refer to the [Health and Safety Responsibilities Procedures](#) for more information on Risk Assessment responsibilities.

#### 1.1. EXEMPTIONS

This guideline is intended to identify and control risks associated with health and safety. Information and guidance relating to operational and strategic risk is available via the Risk Management [webpage](#).

#### 1.2. RELEVANT DOCUMENTS/LINKS

[Health and Safety Policy](#)

[Health and Safety Management Standards](#)

[Health and Safety Risk Matrix](#)

[Health and Safety Responsibilities Procedures](#)

[Workplace Inspection Procedures](#)

Standards Australia (2009) *ISO 31000 Risk management – principles and guidelines*

Standards Australia (2004) HB436:2004. Risk Management Guidelines – companion to AS/NZS 4360:2004

[Risk Management Procedure:](#)

Standards Australia (2009) *ISO 31000 Risk management – principles and guidelines*

Standards Australia (2004) HB436:2004. Risk Management Guidelines – companion to AS/NZS 4360:2004B

[Generic Health and Safety Risk Assessment form](#)

[Plant Risk Assessment Form](#)

[Chemical Risk Assessment Form](#)

Nanotechnology Risk Assessment Form – Contact HSEM

[Events Health and Safety Checklist](#)



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- [Workstation Assessments](#)
- [Fieldwork Risk Assessment Form](#)
- [Workplace Inspection Checklists](#)
- [Research Forms](#)
- [Hazard Identification Tool \(HIT\)](#)
- [Fieldwork Manual](#)
- [Chemical Management Plan](#)

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1	16/11/2016	New Guideline
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