Hazard Management – Making your workplace safer

A Guide to Hazard Identification, Risk Assessment, Control and Reviewing

What is a hazard?

A hazard is something which has the potential to harm the health, safety and welfare of people at work.

Examples of hazards that might be found in a workplace include noise, unguarded power driven machinery, hazardous substances, slippery surfaces, storage of materials at heights, unsafe work procedures and practices and stressful working conditions.

Why manage hazards?

The law requires employers to provide and maintain so far as is reasonably practicable:

(i) a safe working environment;
(ii) safe systems of work; and
(iii) plant and substances in a safe condition.

An essential step in this is the identification, assessment, control and review of any “foreseeable” hazard that may exist and which has the potential to harm the health or safety of any staff member or other people such as students, contractors or visitors to the campus.

Responsibilities for hazard management

Everyone has a responsibility to identify and control or eliminate hazards. However the University’s OHS Policy sets out some specific responsibilities:

Staff and students

Staff and students are responsible for

• assisting in the identification of hazards, the assessment of risks and implementation of hazard control measures;
• reporting any incident or hazard in the workplace to their manager or supervisor; and
• using the required hazard control measures, working safely and not putting themselves or others at risk of injury.

Managers and Supervisors

Managers and Supervisors are responsible for ensuring that hazards in work, study and/or research in their areas of responsibility are identified, risk assessed and controlled and that the risk control measures are documented, monitored regularly and maintained.

Managers and Supervisors are also responsible for ensuring that the staff and students they supervise are fully informed about any hazards associated with activities being carried out, are trained adequately, are instructed in control measures and safe working procedures and are supervised appropriately.

1 Note: These Guidelines are to be read in conjunction with the University’s Hazard Management Policy
2 South Australian Occupational Health, Safety & Welfare Act 1986
Victorian Occupational Health & Safety Act 2004
Northern Territory Workplace Health & Safety Act 2007
Cost Centre Heads
Cost Centre Heads are responsible for the overall implementation of the hazard management system in their Cost Centre. This includes:

- establishment of a systematic process for the regular review and register of hazards within work areas;
- ensuring that staff, students, contractors and visitors are aware of their responsibilities and are provided with adequate information, instruction and training; and
- making available adequate resources to implement the hazard management system in their Cost Centre, including corrective actions.

Health & Safety Representatives
Health & Safety Representatives are encouraged to assist managers and supervisors to identify hazards, assess risks and implement control measures.

When to undertake hazard management

Hazards must be managed whenever they are identified.

Hazard identification must be carried out

- before setting up and using a workplace;
- when planning work processes;
- before purchasing, and during the introduction of, new plant or equipment;
- before use of workplace substances;
- whenever changes are made to
  - the workplace
  - the system or method of work
  - the plant used
  - the chemicals or dangerous substances used.

Regular Workplace hazard inspections must be undertaken in accordance with the workplace hazard inspections procedures.

Consultation

Throughout the hazard management process, managers and supervisors must consult staff and Health & Safety Representatives in the work area, and where relevant, students. This will

- get the whole team involved in the process
- give managers and supervisors different points of view
- encourage safe thinking across the workplace
- help the University to comply with OHS legislation.

Four easy steps of hazard management

*Step 1* Identify the hazard (hazard identification).

*Step 2* Gather as much information as possible about the hazard (risk assessment).

*Step 3* Develop and implement a solution to the hazard (hazard control).

*Step 4* Look back at the hazard to see if it has been solved or has created another problem (review).
Step 1 Hazard Identification

This is the fundamental step in hazard management. A hazard that is not identified cannot be controlled.

a. How?

To identify hazards to health, safety and welfare in your workplace:

- check the records of accidents/injuries, including near misses, that have occurred in your workplace. The OHS Unit can assist you with this information.
- Conduct regular walk-through inspections of your workplace using checklists to prompt the person(s) conducting the inspections to find hazards. The following checklists are available on the OHS website. You can modify them to suit local areas:

<table>
<thead>
<tr>
<th>Checklist type</th>
<th>For use in</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Work Area Checklist</td>
<td>Offices, corridors, stairwells, tea rooms</td>
</tr>
<tr>
<td>Chemical Safety Checklist</td>
<td>Offices, tea rooms, kitchens</td>
</tr>
<tr>
<td>Workshop Checklist</td>
<td>Areas where machinery and tools are used for maintenance and/or manufacturing new equipment</td>
</tr>
<tr>
<td>General Laboratory Checklist</td>
<td>Laboratories</td>
</tr>
<tr>
<td>Event Safety Checklist</td>
<td>Event planning</td>
</tr>
<tr>
<td>Drama Studio checklist</td>
<td>Drama studio(s) and adjoining areas</td>
</tr>
<tr>
<td>Lecture Theatre &amp; Tutorial/Seminar Room Checklist</td>
<td>Lecture theatres, teaching rooms and foyers</td>
</tr>
<tr>
<td>Field Trip Hazard Checklist</td>
<td>Field trip planning</td>
</tr>
<tr>
<td>Grounds Safety Checklist</td>
<td>Outdoor areas</td>
</tr>
<tr>
<td>Workplace Substances</td>
<td>Hazardous, dangerous and/or controlled substances in laboratories or workshops. Not for the lower risk, domestic type chemicals</td>
</tr>
<tr>
<td>Disposal of Plant</td>
<td>When planning for disposal of plant</td>
</tr>
<tr>
<td>Purchase/acquisition of Plant</td>
<td>When planning to buy or acquire plant</td>
</tr>
<tr>
<td>Plant/Equipment Risk Assessment</td>
<td>Plant/equipment hazard management</td>
</tr>
<tr>
<td>Diving</td>
<td>For all diving operations</td>
</tr>
<tr>
<td>Boating</td>
<td>For all boating operations</td>
</tr>
</tbody>
</table>

- Ask staff to identify what problems they have in their jobs.
- Address the issues raised in internal and/or external audits.
- Read manufacturers’ manuals and instructions, warning labels, Material Safety Data Sheets.
- Refer to consultants’ reports where these exist.
When looking for hazards you should consider:

- How suitable the things you use are for the task, and how well they are located
- How people use equipment and materials
- How people might be affected by noise, fumes, lighting etc
- How people might be hurt by equipment, machinery or tools
- How people might be hurt by chemicals and other materials used in the workplace.

b. Record the hazards

Record the hazards identified on your hazard register

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**Step 2 Risk Assessment**

When you have identified the hazards, you need to assess the risk created by each hazard. The risk is the likelihood that the hazard will cause injury, illness or disease in the way that it is used or occurs in the workplace, and the severity of the injury, illness or disease that may result.

Risk assessment means the process of evaluating the likelihood and consequences (or severity) of injury, illness or disease arising from exposure to an identified hazard or hazards.

Assessment of a risk involves consideration of:

- the nature of the hazard;
- how it may affect health or safety (what type of injury, illness or disease could occur and how serious they are);
- how people are exposed to the hazard;
- how much, how often and for how long people are exposed;
- location of the hazard.

The risk assessment also takes into account the way that work is organised, the layout and condition of the work environment, the training and knowledge needed by a person to work safely and the types of control measures available.

Ask yourself how seriously someone could be affected and how likely this is to happen.

The assessment of risk is a process of gathering information and making decisions. For this reason it is important that those who will be affected by the decisions made (staff, students where relevant, and Health & Safety representatives) should be involved in the assessment.

An assessment should be made whenever there is a change in the workplace that could affect health, safety or welfare, or when there is new information about a hazard.

**How to assess OHS Risk**

The following steps show the process to assess OHS risk at the University.
**Step A - Consider the consequences**

For each hazard, consider the consequences if something happens. Consider what could reasonably have happened, as well as what actually happened (if there was an accident/incident). Look at the descriptions below and choose the most suitable consequence.

<table>
<thead>
<tr>
<th>Consequence</th>
<th>Description</th>
<th>Likelihood</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fatality</td>
<td>May cause death and/or severe irreversible disability, and/or permanent ill health</td>
<td>Very likely</td>
<td>Will probably occur immediately or within a short period of time</td>
</tr>
<tr>
<td>Major</td>
<td>Severe injury or illness</td>
<td>Likely</td>
<td>Will probably occur in time</td>
</tr>
<tr>
<td>Minor</td>
<td>Minor (usually reversible) injury or illness resulting in days off work</td>
<td>Possible</td>
<td>Might occur in the next few months</td>
</tr>
<tr>
<td>First Aid</td>
<td>First aid level medical treatment</td>
<td>Unlikely</td>
<td>Could happen, but only rarely</td>
</tr>
<tr>
<td>Negligible</td>
<td>No treatment required</td>
<td>Highly unlikely</td>
<td>Has the potential to occur, but probably never will</td>
</tr>
</tbody>
</table>

**Step B - Consider the likelihood**

How likely is it that something will happen as a result of the hazard?

Look at the descriptions below and choose the most suitable Likelihood.

**Step C – Calculate the Risk Level**

1. Take the Step A rating and select the correct line
2. Take the Step B rating and select the correct column
3. Circle the risk level where the two ratings cross in the matrix below

Risk level = ………………………

<table>
<thead>
<tr>
<th>Consequence</th>
<th>Likelihood</th>
<th>Likelihood</th>
<th>Likelihood</th>
<th>Likelihood</th>
<th>Likelihood</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Very likely</td>
<td>Likely</td>
<td>Possible</td>
<td>Unlikely</td>
<td>Highly unlikely</td>
</tr>
<tr>
<td>Fatality</td>
<td>Extreme</td>
<td>High</td>
<td>High</td>
<td>High</td>
<td>Medium</td>
</tr>
<tr>
<td>Major injury</td>
<td>High</td>
<td>High</td>
<td>High</td>
<td>Medium</td>
<td>Medium</td>
</tr>
<tr>
<td>Minor Injury</td>
<td>High</td>
<td>Medium</td>
<td>Medium</td>
<td>Medium</td>
<td>Medium</td>
</tr>
<tr>
<td>First aid</td>
<td>Medium</td>
<td>Medium</td>
<td>Medium</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td>Negligible</td>
<td>Medium</td>
<td>Medium</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
</tr>
</tbody>
</table>

The risk level helps you to prioritise each hazard based on its risk. The level shows how important it is to do something:

- Extreme & high risk – it is extremely important to do something about this hazard immediately.
- Low – this hazard may not need your immediate attention, but it should be rectified as soon as practicable.

*See the next section for detailed Corrective Action Timeframes.*

**Record the Risk Level**

Record the Risk Level for each of the hazards identified on your hazard register.

**Step 3  Hazard Control**

It is not enough to just find and rate the hazards in your workplace. When you have found them you must do something to eliminate or control them before they injure people or make them ill.
**Is training enough?**
To make workplaces safe, people need thorough training in the work they have to do and the way they should be doing it. But you can’t train people not to have accidents, so it is important to eliminate or control hazards and dangerous work practices.

**Your first obligation is to eliminate the risk.**
Eliminating risks is the most effective way to make the workplace safer. The best way of doing this is to remove the hazard. However, sometimes this is just not possible.

So if you cannot eliminate the hazard, you must control it using the highest possible control option from the hierarchy of controls:

**Hierarchy of Controls**

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Eliminate the hazard</td>
<td>eg remove noisy equipment, purchase pre-cut items</td>
</tr>
<tr>
<td></td>
<td>If this is not practicable, then</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Substitute the hazard with something of a lesser risk</td>
<td>eg lift smaller packages, use a less toxic chemical, change electric hand tools to air powered tools when working near water</td>
</tr>
<tr>
<td></td>
<td>If this is not practicable, then</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Isolate the Hazard</td>
<td>eg place barriers around a spill until cleaned up, use a closed container</td>
</tr>
<tr>
<td></td>
<td>If this is not practicable, then</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Use engineering controls</td>
<td>eg provide a trolley to move heavy loads, place guards and/or lock or devices on moving parts of machinery, change lighting to remove glare</td>
</tr>
<tr>
<td></td>
<td>If this is not practicable, then</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Use administrative controls</td>
<td>eg adopt safe work practices, provide training, instruction or information, introduce job rotation, change daily routines to give breaks from repetitive tasks</td>
</tr>
<tr>
<td></td>
<td>If this is not practicable, then</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Use personal protective clothing or equipment</td>
<td>eg provide hearing and eye protection, hard hats, gloves, masks, safety footwear, aprons</td>
</tr>
</tbody>
</table>

In many cases you may need to use more than one control method. Back up methods such as personal protective equipment, should only be used as a last resort or as a support to other control measures.

When you decide to use lower level control options, you must record reasons for not using higher levels of control.
While you need to concentrate on controlling the highest ranked hazards first, you should also control lower priority hazards at the same time where they can be controlled quickly and easily.

In some cases you may need to put in place temporary controls until proper controls can be put in place. Where there is a high risk and the control measures are not available immediately, you must use temporary controls which reduce the risk(s) or the activity must cease until adequate controls can be implemented.

If an identified hazard does not meet legislative requirements the use of plant, substance or work process must stop immediately and locked out (if necessary) until modifications have been made that make the plant, substance or work process legally compliant.

Use the following corrective action time frame to guide you in implementing controls:

<table>
<thead>
<tr>
<th>Risk Level</th>
<th>Corrective Action Time Frame</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extreme</td>
<td>Immediately</td>
</tr>
<tr>
<td>High</td>
<td>24 hours</td>
</tr>
<tr>
<td>Medium</td>
<td>7 days</td>
</tr>
<tr>
<td>Low</td>
<td>28 days</td>
</tr>
</tbody>
</table>

Record
Note your proposed solution(s) for each hazard on your hazard register, make it someone’s responsibility to see that it gets done, and decide when it should be done by (see corrective action time frame above).

Step 4 Evaluate, Monitor and Review

Once you have decided on the most appropriate control(s), it is important to evaluate whether the control(s) has been successful in controlling the hazard. Do another risk assessment to re-assess the risk with the control(s) in place.

You must also evaluate the control(s) to ensure that the control(s) does not contribute to an existing hazard or introduce a new hazard to the area.

You must also inform everyone concerned about the changes and where necessary provide them with the appropriate information, instruction, training and supervision.

Hazard management should be an ongoing, constantly improving process.

Keep watching and checking that the solutions you have put in place are really working. Encourage staff to let you know if there is still anything dangerous about a matter you thought was resolved.

You must conduct a formal review if any of the following occur:
  - a change in relevant legislation;
  - a change in the use of the equipment or in the materials used;
  - a change in the job or task performed;
  - a changes in the environment or location; or
  - any serious incident/injury eg a Notifiable Event.
You need to constantly monitor and evaluate the strategies you are using to manage hazards. Hazards do not remain the same, the environmental context changes and other factors have an impact on your area, research project, field trip or teaching.

You may find that, over time:

- new hazards are created
- existing hazards are increased or decreased
- hazards no longer exist
- the priority order of hazards changes
- hazard control measures are no longer effective.

You also need to review your hazard register on a regular basis to keep track that actions are taken and reviewed.

**Hazard, Plant and Hazardous/Dangerous Substances Registers**

You must record the data collected from identifying, assessing and controlling hazards in the local area [Hazard Register](#).

All plant must be recorded in a [Plant Register](#).

Each local area (eg laboratory, workshop, store) must have a workplace substances register (generally the hazardous substances manifest in ChemWatch) which lists the hazardous, dangerous and/or controlled substances in use, or being stored in that area. The following must also be maintained for workplace substances:

- Material Safety Data Sheets (MSDSs)
- Risk assessments, including control measures
- Safe Operating Procedures (SOPs)

**Documents/Forms**

Relevant documents, forms and checklists are available for download from the OHS website.