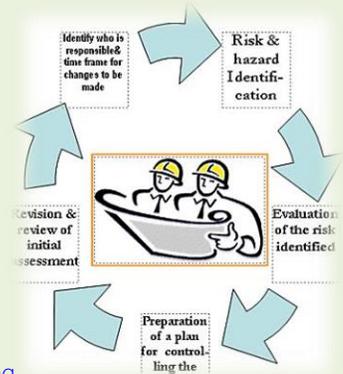




Risk Assessment



Every year people at work suffer accidents and work related ill health. The impact on the individual can be severe, affecting not only their ability to work but also their personal life. Accidents and work related ill health occur in all sectors of employment, although those working in the construction and industry sector are more likely to suffer an accident whilst at work. Manual handling and falls, including slips and trips, continue to be the main causes of accidents at work. Many of the costs incurred by accidents and ill health are not covered by insurance and will have to be met by the business itself. These costs can include:

- payment of wages for injured employees
- loss of production time
- cost of investigation into circumstances of the accident or work related ill health
- cost of remedial action required
- extra wages or overtime payments
- increased employers' liability insurance premiums

Risk Management

Many accidents and incidents of work related ill health can be prevented by adopting a structured approach to managing health and safety that ensures that hazards are identified and measures are taken to reducing risks. This approach, generally referred to as risk assessment, is one of the key steps to managing health and safety, providing the opportunity to take action which is proportionate to the risks that are faced in any particular workplace. A risk assessment involves finding out what in your work could cause harm to people and deciding whether you have done enough, or need to do more, to protect them.

Risk assessment

A risk assessment is simply a careful examination of what, in your work, could cause harm to people, so that you can weigh up whether you have taken enough precautions or should do more to prevent harm. Workers and others have a right to be protected from harm caused by a failure to take reasonable control measures. Accidents and ill health can ruin lives and affect your business too if output is lost, machinery is damaged, insurance costs increase or you have to go to court. You are legally required to assess the risks in your workplace so that you put in place a plan to control the risks.

A **risk assessment** is an important step in protecting workers and business, as well as complying with the law. It helps focus on the risks that really matter in workplace – the ones with the potential to cause real harm. In many instances, straightforward measures can readily control risks, for example ensuring spillages are cleaned up promptly so people do not slip, or cupboard drawers are kept closed to ensure people do not trip. For most, that means simple, cheap and effective measures to ensure company's most valuable asset – i.e. workforce – is protected. The law does not expect to eliminate all risk, but require protecting people as far as 'reasonably practicable'.

When thinking about risk assessment, remember:

a hazard is anything that may cause harm, such as chemicals, electricity, working from ladders, an open drawer etc;

the risk is the chance, high or low, that somebody could be harmed by these and other hazards, together with an indication of how serious the harm could be.

Thus **Risk assessment** is the process where you:

- Identify hazards.
- Analyze or evaluate the risk associated with that hazard.
- Determine appropriate ways to eliminate or control the hazard.

In practical terms, a risk assessment is a thorough look at your workplace to identify those things, situations, processes, etc that may cause harm, particularly to people. After identification is made, you evaluate how likely and severe the risk is, and then decides what measures should be in place to effectively prevent or control the harm from happening.

Risk assessments are very important as they form an integral part of a good occupational health and safety management plan. They help to:

- Create awareness of hazards and risks.
- Identify who may be at risk (employees, cleaners, visitors, contractors, the public, etc).
- Determine if existing control measures are adequate or if more should be done.

- Prevent injuries or illnesses when done at the design or planning stage.
- Prioritize hazards and control measures.

The aim of the risk assessment process is to remove a hazard or reduce the level of its risk by adding precautions or control measures, as necessary. By doing so, means, the company has created a safer and healthier workplace.

How do you do a risk assessment?

Assessments should be done by a competent team of individuals who have a good working knowledge of the workplace. Staff should be involved, always include supervisors and workers who work with the process under review as they are the most familiar with the operation.

In general, to do an assessment, you should:

- ⊕ Identify hazards.
- ⊕ Evaluate the likelihood of an injury or illness occurring, and its severity.
- ⊕ Consider normal operational situations as well as non-standard events such as shutdowns, power outages, emergencies, etc.
- ⊕ Review all available health and safety information about the hazard such as MSDSs, manufacturers literature, information from reputable organizations, results of testing, etc.
- ⊕ Identify actions necessary to eliminate or control the risk.
- ⊕ Monitor and evaluate to confirm the risk is controlled.
- ⊕ Keep any documentation or records that may be necessary. Documentation may include detailing the process used to assess the risk, outlining any evaluations, or detailing how conclusions were made.

When doing an assessment, you must take into account:

- ⊕ the methods and procedures used in the processing, use, handling or storage of the substance, etc.
- ⊕ the actual and the potential exposure of workers
- ⊕ the measures and procedures necessary to control such exposure by means of engineering controls, work practices, and hygiene practices and facilities

By determining the level of risk associated with the hazard, the employer and the joint health and safety committee can decide whether a control program is required.

How are the hazards identified?

Overall, the goal is to find and record possible hazards that may be present in your workplace. As mentioned, it may help to work as a team and include both people familiar with the work area, as well as people who are not - this way you have both the "experienced" and "fresh" eye to conduct the inspection.

To be sure that all hazards are found:

- ⊕ Look at all aspects of the work.
- ⊕ Include non-routine activities such as maintenance, repair, or cleaning.
- ⊕ Look at accident / incident / near-miss records.
- ⊕ Include people who work "off site" either at home, on other job sites, drivers, tele-workers, with clients, etc.
- ⊕ Look at the way the work is organized or "done" (include experience and age of people doing the work, systems being used, etc).
- ⊕ Look at foreseeable unusual conditions (for example: possible impact on hazard control procedures that may be unavailable in an emergency situation, power outage, etc.).
- ⊕ Examine risks to visitors or the public.
- ⊕ Include an assessment of groups that may have a different level of risk such as young or inexperienced workers, persons with disabilities, or new or expectant mothers.

Task	Hazard	Risk	Priority	Control
Delivering product to customers	Drivers work alone	May be unable to call for help if needed		
	Drivers have to occasionally work long hours	Fatigue, short rest time between shifts		
	Drivers are often in very congested traffic	Increased chance of collision		
		Longer working hours		
Drivers have to lift boxes when delivering product	Injury to back from lifting, reaching, carrying, etc.			

Example of Risk Assessment

How do you know if the hazard is serious (poses a risk)?

Each hazard should be studied to determine its' level of risk. To research the hazard, you can look at:

- ⊕ product information / manufacturer documentation
- ⊕ past experience (workers, etc)
- ⊕ legislated requirements and/or applicable standards

- ⊕ industry codes of practice / best practices
- ⊕ health and safety material about the hazard such as material safety data sheets (MSDSs), or other manufacturer information
- ⊕ information from reputable organizations
- ⊕ results of testing (atmospheric, air sampling of workplace, biological, etc)
- ⊕ the expertise of a occupational health and safety professional
- ⊕ information about previous injuries, illnesses, "near misses", accident reports, etc.

Remember to include factors that contribute to the level of risk such as the:

- work environment (layout, condition, etc.)
- capability, skill, experience of workers who do the work
- systems of work being used
- range of foreseeable conditions



Risk Assessment – STEP BY STEP

How do you rank or prioritize the risks?

Ranking or prioritizing hazards is one way to help determine which hazard is the most serious and thus which hazard to control first. Priority is usually established by taking into account the employee exposure and the potential for accident, injury or illness. By assigning a priority to the hazards, you are creating a ranking or an action list. The following factors play an important role:

- ⊕ percentage of workforce exposed
- ⊕ frequency of exposure
- ⊕ degree of harm likely to result from the exposure
- ⊕ probability of occurrence

There is no one simple or single way to determine the level of risk. Ranking hazards requires the knowledge of the workplace activities, urgency of situations, and most importantly, objective judgment.

Options to rank or prioritize risks

One option is to use a table similar to the following as established by the British Standards Organization:

Risk Assessment by the British Standards Organization

Likelihood of Harm	Severity Of Harm		
	Slight Harm	Moderate Harm	Extreme Harm
Very unlikely	Very low risk	Very low risk	High risk
Unlikely	Very low risk	Medium risk	Very high risk
Likely	Low risk	High risk	Very high risk
Very likely	Low risk	Very high risk	Very high risk

Note: These categorizations and the resulting asymmetry of the matrix arise from the examples of harm and likelihood illustrated within the British Standard. Organizations should adjust the design and size of the matrix to suit their needs.

Definitions of Basic Terms in Risk Assessment

Likelihood of Harm

- Very Likely** Typically experienced at least once every six months by an individual.
- Likely** Typically experienced once every five years by an individual.
- Unlikely** Typically experienced once during the working lifetime of an individual.
- Very unlikely** Less than 1% chance of being experienced by an individual during their working lifetime.

Severity of Harm

Potential severity of harm

When establishing potential severity of harm, information about the relevant work activity should be considered, together with:

- a) part(s) of the body likely to be affected;
- b) nature of the harm, ranging from slight to extremely harmful:

1. **Slightly harmful** (e.g., superficial injuries; minor cuts and bruises; eye irritation from dust; nuisance and irritation; 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)
3. **Extremely harmful** (e.g., amputations; major fractures; poisonings; multiple injuries; fatal injuries; occupational cancer; other severely life shortening diseases; acute fatal diseases)

Risk Level

Very low -	These risks are considered acceptable. No further action is necessary other than to ensure that the controls are maintained.
Low -	No additional controls are required unless they can be implemented at very low cost (in terms of time, money, and effort). Actions to further reduce these risks are assigned low priority. Arrangements should be made to ensure that the controls are maintained.
Medium -	Consideration should be as to whether the risks can be lowered, where applicable, to a tolerable level and preferably to an acceptable level, but the costs of additional risk reduction measures should be taken into account. The risk reduction measures should be implemented within a defined time period. Arrangements should be made to ensure that controls are maintained, particularly if the risk levels area associated with harmful consequences.
High -	Substantial efforts should be made to reduce the risk. Risk reduction measures should be implemented urgently within a defined time period and it might be necessary to consider suspending or restricting the activity, or to apply interim risk control measures, until this has been completed. Considerable resources might have to be allocated to additional control measures. Arrangements should be made to ensure that controls are maintained, particularly if the risk levels are associated with extremely harmful consequences and very harmful consequences.
Very high -	These risk are unacceptable. Substantial improvements in risk control measures are necessary so that the risk is reduced to a tolerable or acceptable level. The work activity should be halted until risk controls are implemented that reduces the risk so that it is no longer very high. If it is not possible to reduce the risk, the work should remain prohibited.

Note: Where the risk is associated with extremely harmful consequences, further assessment is necessary to increase confidence in the likelihood of harm.
 ⓘ - Adapted From: Occupational health and safety management systems - Guide: British Standard, BS 8800, BSI 2004; and Managing Safety the Systems Way: Implementing OHSAS 18001 using BS 8800, BSI 2004.

Other options include using tables such as below.

Hazard Control Strategy: A Sample Worksheet					
Ergonomics	60	H	H	60-HH	1 (?)
Back pain	80	H	H	80-HH	2 (?)
Noise	30	L	H	30-LH	3
Heat	50	L	L	50-LL	5
Lasers	2	L	H	2-HL	4
H = High, L = Low					

* From: Health and Safety Committees Reference Guide, CCOHS

Or, Table below, where 1 = extremely important to do something as soon as possible, 6 = hazard may not need immediate attention.

Example of Hazard Priority Setting				
	Very likely - could happen at any time	Likely - could happen sometime	Unlikely - could happen but very rarely	Very unlikely - could happen but probably never will>
Kill or cause permanent disability or ill health	1	1	2	3
Long term illness or serious injury	1	2	3	4
Medical attention and several days off work	2	3	4	5
First aid needed	3	4	5	6

From Hazpak: Making your workplace safer. A practical guide to basic risk management by Work Cover New South Wales, Australia.[n.d.]

Methods of hazard control

Once you have established your top priorities, you can decide on ways to control each specific hazard. Hazard control methods are often grouped into the following categories:

- ⊕ elimination (including substitution)
- ⊕ engineering controls
- ⊕ administrative controls
- ⊕ personal protective equipment

Review and monitor your assessment

It is important to know if your risk assessment was complete and accurate. It is also essential to be sure that changes in the workplace have not introduced new hazards or changed hazards that were once ranked as lower priority to a higher priority.

It is good practice to review your assessment on a regular basis to be sure that nothing has changed and that your control methods are effective. Triggers for a review can also include:

- ⊕ the start of a new project,

- ⊕ a change in the work process or flow,
- ⊕ a change or addition to tools, equipment, machinery (including locations or the way they are used),
- ⊕ new employees,
- ⊕ moving to a new building or work area,
- ⊕ introduction of new chemicals or substances,
- ⊕ when new information becomes available about a current product.

Documentation should be done for a risk assessment

Keeping records of your assessment and any control actions taken is very important. You may be required to store assessments for a specific number of years. Check for local requirements in your jurisdiction.

The level of documentation or record keeping will depend on:

- ⊕ level of risk involved,
- ⊕ legislated requirements, and/or
- ⊕ requirements of any management systems that may be in place.

Your records should show that you:

- ⊕ conducted a good hazard review,
- ⊕ determined the risks of those hazards,
- ⊕ implemented control measures suitable for the risk,
- ⊕ reviewed and monitored all hazards in the workplace.

Risk Assessment Template (1) [for illustration and reference only]

What are the hazards?	Who might be harmed and how?	What are you already doing?	Do you need to do anything else to manage this risk?	Action by whom?	Action by when?	Done
Slips and trips	Staff and visitors may be injured if they trip over objects or slip on spillages	We carry out general good housekeeping. All areas are well lit including stairs. There are no trailing leads or cables. Staff keep work areas clear, eg no boxes left in walkways, deliveries stored immediately, offices cleaned each evening	Better housekeeping is needed in staff kitchen, eg on spills	All staff, supervisor to monitor	01/10/2010	01/10/2010

Risk Assessment Template (2) [for illustration and reference only]

Potential Hazard	Who is at risk?	Existing Control Measures	Risk Rating	Preventative Measures	Responsibilities
E.g. Ensure safety of warm-up	Swimmers	No diving; control safe numbers per lane; backstroke flags in place etc	High	Strictly enforce no diving policy, except in designated sprint lanes; Awareness of water depths, height of starting blocks – any other potential hazards; Check which team members are safe & confident about diving in – given the conditions.	All Club Poolside personnel & staff
E.g. Compliance with normal operating procedures at pool	All participants	Usual pool prohibitions – no running, blocking exits with bags etc	Low	Awareness of general rules at the venue; Support Pool Staff in enforcement;	All Club Poolside personnel in consultation with Lifeguards & Pool Staff

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