

The logo for NT WorkSafe, featuring the text "NTWorkSafe" in a bold, sans-serif font. "NT" is in white, "Work" is in grey, and "Safe" is in orange. The logo is set against a black background with orange wavy borders above and below.

Guide

Six step to risk management

Disclaimer

This publication contains information regarding work health and safety. It includes some of your obligations under the *Work Health and Safety (National Uniform Legislation) Act* – the WHS Act – that NT WorkSafe administers. The information provided is a guide only and must be read in conjunction with the appropriate legislation to ensure you understand and comply with your legal obligations.

Acknowledgement

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Introduction

This guide aims to help you assess and manage health and safety risks in the workplace.

Risk management is an important way to protect your workers and your business, while at the same time complying with the law. It helps you focus on the risks that really matter in your 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 your most valuable asset – your workforce – is protected.

The law does not expect you to eliminate all risk, but you are required to protect people as far as 'reasonably practicable'. This guide will help you to achieve that.

The steps outlined in this guide are not the only way to conduct a WHS risk management process, there are other methods that work well, particularly for more complex risks and circumstances. However, we believe this method is the most straightforward for most organisations.

Don't overcomplicate the process. In many organisations, the risks are well known and the necessary control measures are easy to apply. If you are an employer, you probably already know whether, for example, you have employees who move heavy loads and so could harm their backs, or where people are most likely to slip or trip. If so, check that you have taken reasonable precautions to avoid injury.

If you run a small organisation and you are confident you understand what's involved, you can do the assessment yourself. You don't have to be a health and safety expert.

If you work in a larger organisation, you could ask a health and safety advisor to help you. If you are not confident, get help from someone who is competent. In all cases, you should make sure that you involve your staff or their representatives in the process. They will have useful information about how the work is done that will make your assessment of the risk more thorough and effective. But remember, you are responsible for seeing that risk management is carried out properly.

Good management practice

Risk management is recognised as an integral part of good management practice. It is an interactive process consisting of steps, which, when undertaken in sequence, enable continual improvement in decision making.

Risk management is the term applied to a logical and systematic method of establishing the context, identifying, analysing, treating, monitoring and communicating risks associated with any activity, function or process in a way that will enable organisations to minimize losses and maximize opportunities. Risk management is as much about identifying opportunities as avoiding or mitigating losses.

Defining Hazard and Risk

Hazards and risks are not the same thing

A hazard is an act or condition that has the potential to cause damage to plant or equipment, or result in an illness or injury.

Hazards can be categorised by the type of outcome, energy exchange process or geographic location, e.g. manual handling hazards, slips and trips, laundry hazards. A risk is the likelihood of a specific consequence occurring. Risks are usually expressed in terms of likelihood and consequences e.g. the risk of contracting Ross River Fever while working in Tasmania might be considered to be very low.

In many cases the terms 'hazard' and 'risk' are used interchangeably, however, remember that hazard has a more general application and risk a specific application. Risk management has three (3) main stages, risk identification, risk assessment and risk control. In many cases in the early phase of identifying risk, we may in fact be looking to identify all the risks associated with a particular activity or process, in which case the activity is more properly referred to as hazard identification, risk assessment and then risk control.

Systematic approach to the management of Hazards and associated Risks

The aim of the process is to minimise the likelihood or consequence of a particular risk to a level that is minimal and that we are prepared to accept.

The risk management process includes:

- Identification of a hazard
- Identification of the associated risk

Assessment of the risk – including:

- the likelihood
- the consequence
- assigning a priority for rectification

Control of the risk – using a hierarchy of control measures consisting of the following – in order of preference:

- Elimination
- Substitution
- Isolation
- Engineering controls
- Administrative controls (such as Standard Operating Procedures or training)
- Personal Protective Equipment (PPE)
- Documentation of the process
- Monitoring and review of the process

Step 1: Hazard identification

This is the process of examining each work area and work task for the purpose of identifying all the hazards which are “inherent in the job”.

Work areas include (but are not limited to) machine workshops, laboratories, office areas, agricultural and horticultural environments, stores and transport, maintenance and grounds.

Tasks can include (but may not be limited to) using screen based equipment, audio and visual equipment, industrial equipment, hazardous substances and/or dangerous goods, teaching/dealing with people, driving a vehicle, dealing with emergency situations, construction, etc.

First you need to work out how people could be harmed. When you work in a place every day it is easy to overlook some hazards, so here are some tips to help you identify the ones that matter:

- Walk around your workplace and look at what could reasonably be expected to cause harm
- Ask your employees or their representatives what they think. They may have noticed things that are not immediately obvious to you
- Visit the NT WorkSafe website or other work health and safety websites as they often publish practical guidance on where hazards occur and how to control them.
- If you are a member of a union or trade association, contact them. Many produce very helpful guidance in this area
- Check manufacturers' instructions or data sheets for chemicals and equipment, as they can be very helpful in spelling out the hazards and putting them in their true perspective
- Have a look back at your accident and ill-health records – these often help to identify the less obvious hazards
- Remember to think about long-term hazards to health (e.g. high levels of noise or exposure to harmful substances) as well as safety hazards.

Examples of Hazards

- an unguarded gear wheel on a workshop grinding machine which has the potential to draw a worker's clothing and limbs into the drive of the machine and cause serious bodily injury
- handling of flammable liquids in the presence of ignition sources
- an unlabelled container of caustic soda which has the potential to cause severe skin burns if handled incorrectly providing services to the public which involve the granting or withholding of some benefit or service
- driving of motor vehicles or other powered equipment onsite
- loose asbestos released during demolition work
- noise from an uninsulated chainsaw which can reach levels of up to 110 dB with the potential to seriously damage hearing

- a badly designed shovel (for example, with a short handle and a very large blade) which has the potential to cause back injury
- waste oil from an engine which can damage workers' health through skin absorption or be a possible cause of slips or falls
- blood in a syringe at a hospital, which has the potential to infect a worker with a disease if the needle punctures the worker's skin.

Remember that workplace hazard identification, assessment and control is an on-going process which is best conducted in the context of full consultation between an employer and their employees.

It should be undertaken at various times, including:

- if it has not been done before
- when a hazard has been identified
- when a change to the workplace occurs
- after an incident, accident or workplace illness
- at regularly scheduled times appropriate to the workplace.

The process of hazard identification can also assist in:

- revealing hazards which were overlooked in the original design and installation of plant, equipment, operating procedures and setting-up of associated work systems
- detecting hazards which have developed after the plant, equipment, other resources (chemical etc.) or work system has been established
- highlighting any ergonomic problems associated with the plant, equipment, operating procedures
- indicating any environmental factors e.g. poor lighting, that may contribute to an accident
- determining methods for ongoing monitoring to achieve optimum WHS standards
- highlighting any training requirements.

Step 2: Risk identification

Examples of risk identification

Hazard: Frayed wires on electrical items

Risk: Operator may be electrocuted

Hazard: Unguarded rollers on printing machine

Risk: Operator's hand may be drawn in and crushed

Once a hazard to health and safety has been identified, the risk associated with that hazard must be examined. As a prelude to Risk Assessment, it is useful to identify factors that may be contributing to the risk. A review of existing health and safety information, such as local workplace accident records and / or information about the hazard / risk that is available from national or other jurisdiction authoritative sources will assist in understanding the risk associated with the hazard in question.

Step 3: Risk assessment

Two key factors

It is then necessary to evaluate the likelihood of an injury occurring along with its probable consequences. Risk assessments are therefore based on 2 key factors:

- the likely severity or impact of any injury/illness resulting from the hazard, and
- the probability or likelihood that the injury/illness will actually occur.

A simple risk matrix, which cross references likelihood and impact, enables risks to be assessed against these two factors and identified as one of the following:

- a critical risk
- a high risk
- a moderate risk
- a low risk
- a very low risk.

Step 4: Risk control

Urgent action is required for risks assessed as Critical or High risks. The actions required may include:

- instructions for the immediate cessation of the work, process, activity, etc.
- isolation of the hazard until more permanent measures can be implemented.

Documented control plans with responsibilities and completion dates may need to be developed for Moderate risks.

Having established the relative importance of dealing with the identified risk, the risk control hierarchy ranks possible risk control measures in decreasing order of effectiveness. Risk control measures should always aim as high in the list as practicable. Control of any given risk generally involves a number of measures drawn from the various options (except if option 1 is selected).

Risk Control Hierarchy

- Elimination of hazard: examples include the proper disposal of redundant items of equipment that contain substances such as asbestos or PCBs, the removal of excess quantities of chemical accumulated over time in a laboratory, etc. The elimination of hazards is 100% effective
- Substitution of hazard: examples include the replacement of solvent-based printing inks with water-based ones, of asbestos insulation or fire-proofing with synthetic fibres or rockwool, the use of titanium dioxide white pigment instead of lead white, etc. The effectiveness of substitution is wholly dependent on the choice of replacement.

- Isolation of hazard: examples include placing a particular piece of machinery in a place where only trained staff are required to interact with it (i.e. removing or separating workers from a particular hazard where possible).
- Engineering controls: examples include the installation of machine guards on hazardous equipment, the provision of local exhaust ventilation over a process area releasing noxious fumes, fitting a muffler on a noisy exhaust pipe, etc. The effectiveness of engineering solutions is around 70–90%.
- Administrative controls: include training and education, job rotation to share the load created by demanding tasks, planning, scheduling certain jobs outside normal working hours to reduce general exposure (e.g. planning demolition and building works during summer recess), early reporting of signs and symptoms, instructions and warnings, etc. The effectiveness of administrative controls ranges from 10 to 50%. They typically require significant resources to be maintained over long periods of time for continuing levels of effectiveness.
- Personal protective equipment: includes safety glasses and goggles, earmuffs and earplugs, hard hats, toe-capped footwear, gloves, respiratory protection, aprons, etc. Their effectiveness in realistic work situations does not exceed 20%.

You will need to develop work procedures in relation to the new control measures, which may involve clearly defining responsibilities of management, supervisors and workers.

If, like many businesses, you find there are quite a lot of improvements that you could make, big and small, don't try to do everything at once. Make a plan of action to deal with the most important things first. Health and safety inspectors acknowledge the efforts of businesses that are clearly trying to make improvements.

A good plan of action often includes a mixture of different things such as:

- priority and quick attention to hazards associated with high or critical risks
- a few cheap or easy improvements that can be done quickly, perhaps as a temporary solution until more reliable controls are in place
- long-term solutions to those risks most likely to cause accidents or ill health
- long-term solutions to those risks with the worst potential consequences
- arrangements for training employees on the main risks that remain and how they are to be controlled
- regular checks to make sure that the control measures stay in place; and clear responsibilities – who will lead on what action, and by when.

Remember, prioritise and tackle the most important things first. As you complete each action, tick it off your plan.

You should inform all relevant persons about the control measures being implemented, in particular, the reasons for the changes.

You should also provide adequate supervision to verify that the new control measures are being implemented and used correctly.

Any maintenance in relation to the control measures is an important part of the process. Work procedures should detail maintenance requirements and verification of the maintenance to ensure the ongoing effectiveness of the control measures.

Step 5: Documenting the process

Documenting the process will help ensure that identified control measures are implemented in the way that they were intended. It will also assist in managing other hazards and risks that may be in some way similar to ones already identified and dealt with.

Adequate record keeping of the risk management process will also help demonstrate to the Regulator, or in litigation that you have been actively working to ensure safety at your workplace. Records should show that the process has been conducted properly including information about the hazards, associated risks and control measures that have been implemented.

Information should include:

- hazards identified
- assessment of the risks associated with those hazards
- decisions on control measures to manage exposure to the risks
- how and when the control measures are implemented
- evidence of monitoring and review of the effectiveness of the controls
- any checklist used in the process.

Step 6: Monitoring and reviewing

Whichever method of controlling the hazard is determined, it is essential that an evaluation of its impact on the use of the equipment, substance, system or environment is carried out to ensure that the control does not contribute to the existing hazard or introduce a new hazard to the area. It is also essential that all people concerned be informed about the changes and where necessary provided with the appropriate information, instruction, training and supervision as are reasonably necessary to ensure that each employee is safe from injury and risks to health. It is also recommended that after a period of time the area supervisor carry out a review of the system or control to determine its suitability.

Hazard identification and risk assessment and control are ongoing processes. Make sure that you undertake a hazard identification and risk assessment and control process when there is a change to the workplace, including when work systems, tools, machinery or equipment changes occur, or simply when the existing process was done some time ago and is potentially out of date or no longer valid.

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