+IMPAC | The Health + Safety Company

WORKPLACE HEALTH & SAFETY RISK ASSESSMENT

UNIT STANDARD 30265

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We diagnose

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GUIDE

This guide is designed to go with the **Workplace Health and Safety Risk Assessment** course. You will need to refer to it during the course. It also makes a great reference guide for back in the workplace, to help you apply what you have learnt, and to show your colleagues.

Please feel free to add notes to this guide during the course.

Tips

As you go through this manual with your trainer use a highlighter or underline important words as you are reading. This will make it easier to find key information later.

Use a different colour to highlight or underline words you do not understand or are unsure about, this will make it easier to find them later so that you can ask someone, or look them up.

The New Zealand Qualifications Authority

This course also provides the training required towards the achievement of:

NZQA Unit Standard 30265— Apply health and safety risk assessment to a job role

Your IMPAC course trainer will provide you with instructions as to what you need to do to achieve this Unit Standard.

As an NZQA candidate, you are expected to:

› Participate fully in the training session

› Share your knowledge and experience

› Participate in discussions and activities

› Complete all assessment activities as notified by your trainer

› Take responsibility for your own learning needs

› Discuss with your trainer any assistance you may need.

If you are being disruptive, your trainer will advise you that your behaviour is disrupting learning for other trainees.

If the behaviour continues to disrupt or disturb others, your trainer will ask you to leave the course, and your employer will be notified immediately.

RISK ASSESSMENT PRINCIPLES AND PROCESS

What you need to know:

› The principles of risk assessment

› The five stages and two on-going processes involved in effective hazard and risk management

THE PRINCIPLES OF RISK ASSESSMENT

Workplace health and safety risk assessment is the core of a health and safety management system. Effective risk assessment must be built on the following five principles:

> › Identify
>
> A risk assessment should always start with identifying the context or situation, where we are, who is involved, what we are doing, how and why. It must also identify the hazards - the potential sources of harm, as well as who could be harmed and how.

> › Assess
>
> There should always be an assessment of the potential severity of harm, and likelihood of that harm. This allows the focus to be on the biggest or most important risks. Risk assessment must also assess whether existing risk controls are adequate or whether more can or should be done.

> › Control
>
> Risk assessment must always show how the risk could be eliminated, or minimised so that harm is less likely and/or the consequences are less severe.

> › Monitor
>
> Things are always changing, so risk assessment must set out how the hazards and risks, the risk controls, and the effects of being exposed to risks will be monitored so that risk remains under control.

> › Review
>
> Risk assessment must always define who will check the risk assessment to make sure it is appropriate and effective, and what situations will trigger a review.

RISK ASSESSMENT PRINCIPLES AND PROCESS

RISK ASSESSMENT PROCESS

Risk assessment is an important decision-making tool. Risk assessments can be done in many different ways but the main aim of risk assessment is to try to understand what we know and don't know about a situation, and work out what resources are needed to get the job done well.

The risk assessment process has **five key stages.** At each stage there are some important questions to answer:

1. **Establish the context**: What is happening, who is involved, when is it happening, where, why and how is it being done?

2. **Identify the hazards**: What are the situations or things that have the potential for harm?

3. **Analyse the risk**: What is most likely to cause the most harm? What are the most important things to prioritise for attention?

4. **Evaluate the risk**: Is the current state OK or can/should we do more to control the risk?

5. **Control the risk**: What is needed to control the risk, and recover without serious consequences if something goes wrong?
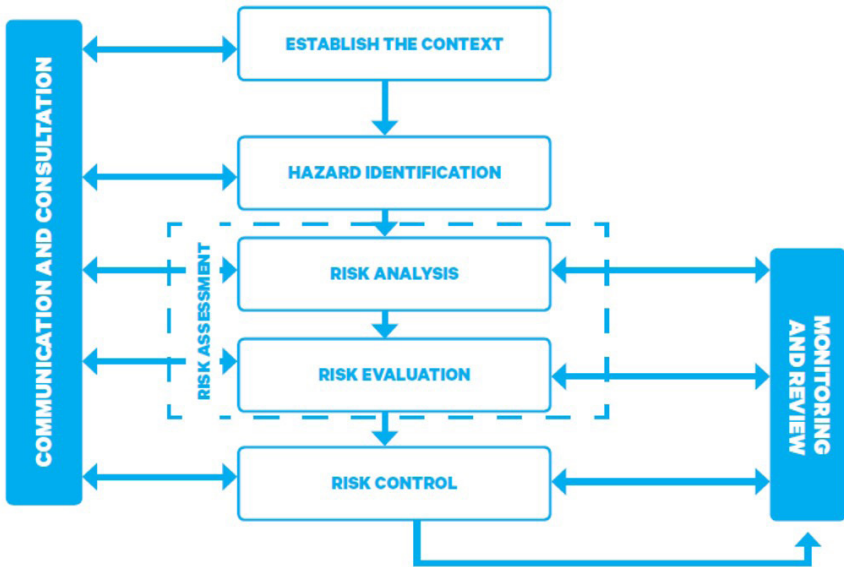
There are also two on-going activities that support risk assessment:

›   **Communicating and consulting**: This is important because workers know best about how work is done and without their input the risk assessment probably won't be useful and practical. People involved in the work and exposed to the risk also need to be kept in the loop with decisions about changes to their work and the resources they have available.

›   **Monitoring and reviewing**: How, what, when and where are we going to monitor to make sure we keep on top of changes and maintain the risk controls so they stay effective? How, when and who will review the risk assessment to make sure it is still accurate, relevant, and up-to-date?

RISK ASSESSMENT PRINCIPLES AND PROCESS

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LEGAL REQUIREMENTS FOR RISK ASSESSMENT

What you need to know:

› The concept of the PCBU and standard of 'reasonably practicable'

› The requirements for worker engagement and participation

› The duty to manage risk and the 'hierarchy of control'

› Multiple PCBUs and overlapping duties

› Specific duties under the Health and Safety at Work (General Risk and Workplace Management) Regulations 2016

NOTES

THE HEALTH AND SAFETY AT WORK ACT 2015

The Health and Safety at Work Act (HSW Act) 2015 (and its amendments) is the key work health and safety law in New Zealand and covers nearly all work and workplaces.

The HSW Act came into effect on the 4 April 2016.

Purpose of the HSW Act 🔨 s3

The main purpose of this Act is to provide for a balanced framework to secure the health and safety of workers and workplaces by:

1 Protecting workers and other persons against harm

2 Providing for fair and effective workplace representation, consultation, and co-operation

3 Encouraging unions and the PCBU organisations to take a constructive role

4 Promoting the provision of advice, information, education, and training

5 Securing compliance with this Act through effective and appropriate compliance and enforcement measures

6 Ensuring appropriate scrutiny and review of actions taken by persons performing functions or exercising powers under this Act

7 Providing a framework for continuous improvement and progressively higher standards of work health and safety.
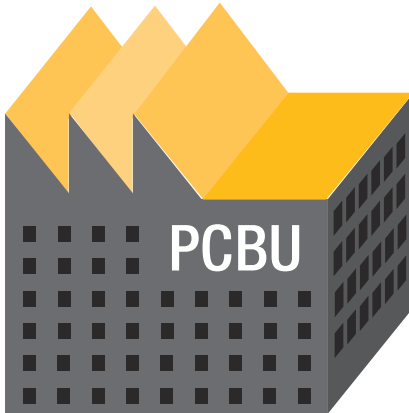
KEY POINT

The HSW Act is underpinned by the principle that workers and other persons should be given the highest level of protection against harm to their health, safety, and welfare from hazards and risks arising from work.

LEGAL REQUIREMENTS FOR RISK ASSESSMENT

The PCBU 🔨 s17

PERSON
A legal entity

CONDUCTING
Best placed to influence the control of hazards and risks

BUSINESS
An enterprise or organisation that does things to make a profit

UNDERTAKING
An enterprise or organisation that does things but not primarily to make a profit

---

KEY POINT

"Person" in legal terminology is a legal entity, rather than an individual. This means that 'PCBU' refers to the business or organisation, represented by its management. A self-employed person's business identity (e.g. JB Plumbers, where Jane Brown is the plumber) is a PCBU. 'PCBU' does not include a worker, officer, director, volunteer association, or occupier of a home.

The standard of 'reasonably practicable' 🔨 s22

Most duties in the HSW Act must be carried out by the duty holder 'so far as is reasonably practicable':

› Something is 'practicable' if it is possible or capable of being done

› 'Reasonably' means that it should also make sense - it should 'stand to reason'.

Under the HSW Act, 'so far as is reasonably practicable' means action which is, or was, at a particular time, reasonably able to be done in relation to ensuring health and safety, taking into account and weighing up all relevant matters, including:

1 Likelihood of the risk occurring

2 Degree of harm that might result

3 Knowledge about the hazard or risk, and risk control measures

4 Availability and suitability of risk control measures

5 Cost of risk control measures, including whether the cost is grossly disproportionate to the risk.

If something is possible to do, but the time, cost, effort and trouble to do it is a lot more (a gross disproportion) than the benefits to be gained, then it is probably not 'reasonably practicable' to do it, and so not legally required.

KEY POINT

The best way to work out 'reasonably practicable' risk control is to look at what the relevant approved codes of practice, guidelines and standards say. Part of the idea of 'reasonably practicable' is keeping up-to-date with the state of knowledge about hazards and risks, how they cause harm and how best to control them.

WORKER ENGAGEMENT AND PARTICIPATION

All PCBUs must have worker engagement and participation practices, regardless of their size, level of risk or the type of work.

PCBU DUTIES

TO ENGAGE WITH THEIR WORKERS

s58 on H&S issues that may impact on them, and other workers who may be affected.

TO HAVE WORKER PARTICIPATION PRACTICES

s61 so that workers can have a say on H&S issues that impact on them, and opportunities to help improve H&S in the workplace.

Engagement—what it means

A PCBU must engage with workers on any work health and safety matter that directly affects them.

'Engagement' means:

› Being proactive

› Making sure that every worker has opportunities to influence their work and their working conditions and to shape health and safety systems at work

› Involving Health and Safety Representatives (HSRs) when they are present in a workplace

› Taking workers' views into account and keeping everyone informed about what will happen next

› Using a mix of formal and informal approaches to encourage workers to share their views.

LEGAL REQUIREMENTS FOR RISK ASSESSMENT

Participation - what it means

Worker participation practices are what a PCBU puts in place to give workers ongoing opportunities to improve health and safety.

Different types of participation will suit different workplaces. For example, a PCBU can provide opportunities for workers to have their say about health and safety issues during meetings, team talks, training sessions, one-to-one talks with supervisors or managers. A PCBU and its workers can team up to develop the practices that will work best and be most effective for their workplace. Innovative and flexible practices are encouraged.

Participation can be either direct between PCBU and worker, or through representation. The HSW Act outlines certain requirements if HSRs and Health and Safety Committees are the chosen practices.

Does everyone have to agree?

Engagement does not mean that everyone has to agree. What's important is that everyone has had an opportunity to have a say and that the PCBU has seriously considered all points of view.

Although engagement is not the same as negotiation, a PCBU should listen to workers' concerns with an open mind and make decisions based on reliable information. Sometimes this will mean starting over and coming up with a new approach to a work challenge.
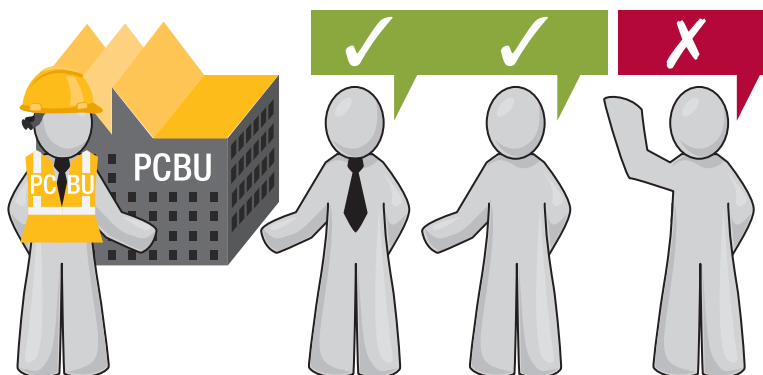
KEY POINT

Leadership and commitment from senior management is essential for worker participation to be effective.

LEGAL REQUIREMENTS FOR RISK ASSESSMENT

DUTY TO MANAGE RISKS 🔨 s30

Where risk management duties are set out, the duty holder is required:

1   To eliminate risks to health and safety, so far as is reasonably practicable; and

2   If it is not reasonably practicable to eliminate risks to health and safety, to minimise those risks so far as is reasonably practicable.

A duty holder is expected to manage risks to the extent to which they have, or would reasonably be expected to have, the ability to influence and control the matter to which the risks relate.

| NO RISK MANAGEMENT | RISK IS MINIMISED BUT NOT SFAIRP | RISK IS MINIMISED SFAIRP | RISK IS ELIMINATED |
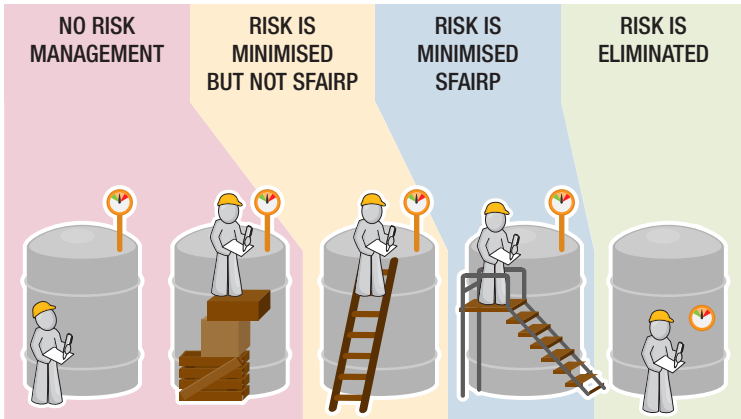
EXAMPLE

In the diagram above, there is a risk to the worker of a fall. A short-term solution could be to provide a ladder and a rule that the ladder must be used. But to minimise the risk so far as is reasonably practicable (SFAIRP) will require an engineered control, and in the future, risk elimination through design.

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OVERLAPPING DUTIES 🔨 s34
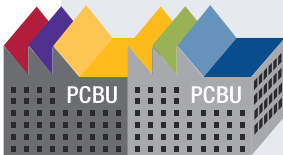
OVERLAPPING DUTIES

› PCBUs must consult, co-operate, co-ordinate

› Duty depends on sphere of influence.

The idea of overlapping duties is a key part of the design of the HSW Act 2015. PCBUs will have a duty to all workers affected by their work, including the workers of other PCBUs in some cases. PCBUs will need to work together to meet their overlapping duties.

Two or more PCBUs shouldn't have to duplicate what they are doing. They need to **consult, co-operate and co-ordinate** activities to meet their shared responsibilities.

Once the PCBUs agree on reasonable activities to manage their overlapping duties, they will have to monitor each other to make sure everyone is doing what they agreed to do.

LEGAL REQUIREMENTS FOR RISK ASSESSMENT

Influence and control

PCBUs have a greater duty and more will be expected of them in areas where they have the most influence and control over the work activity that's going on. PCBUs will likely have more influence and control over the workers they employ, and less influence and control over the workers of another PCBU.

PCBUs who have expertise in the work, and who are located near to where the work is happening, will usually have more influence and control.

Where a PCBU has less influence and control over workers, they will need to make arrangements with the PCBU closer to the work which has more direct control over the work.

EXAMPLE

A landlord that owns a large office block will be required to take the lead and **consult, co-operate and co-ordinate** with the businesses who rent office space when the landlord gets contractors in to resurface the road access way. The contractor should take the lead in arranging traffic management, because that is part of their business as usual and they have the expertise.

Cross-over work and overlapping duties

When different PCBUs are working together on a site (e.g. subcontractors), they will need to work together to ensure that their work doesn't affect each other even if there isn't a direct contractual relationship between them.

⚠️ **EXAMPLE**

One contractor is doing some welding while another is using flammable expanding foam filler in the same area. The two contractors need to **consult, co-operate and co-ordinate** activities to reduce the risk of the flammable filler being ignited by the welding hot work.
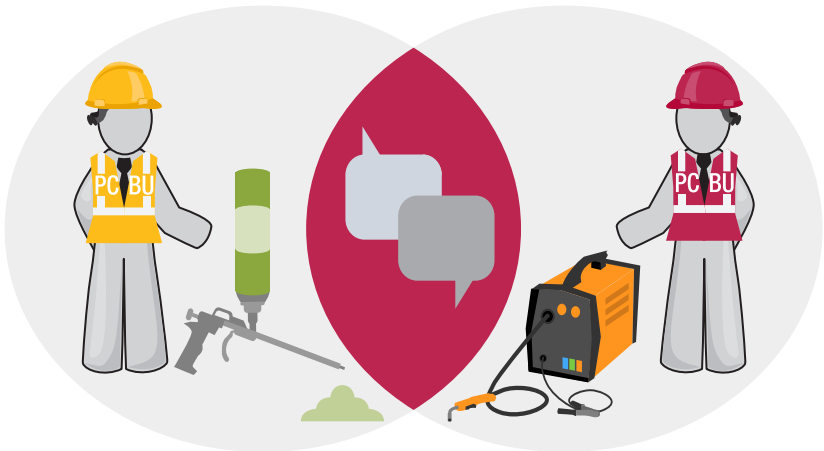
LEGAL REQUIREMENTS FOR RISK ASSESSMENT

HEALTH AND SAFETY AT WORK (GENERAL RISK AND WORKPLACE MANAGEMENT) REGULATIONS 2016

	DESCRIPTION	REGULATION
IDENTIFY, CONTROL, MAINTAIN AND REVIEW	Identify hazards and risks	Part 1, r 5
	Apply the hierarchy of control measures	Part 1, r 6
	Maintain control measures	Part 1, r 7
	Review control measures	Part 1, r 8
INFORMATION, SUPERVISION, TRAINING AND INSTRUCTION	Provide health and safety information, supervision, training, and instruction to workers	Part 1, r 9
FACILITIES	Provide general workplace facilities	Part 1, r 10
FIRST AID	First aid equipment and facilities	Part 1, r 13
	Provide trained first aiders	
EMERGENCY PLANS	Develop emergency response plans relevant to business hazards and risks	Part 1, r 14
PERSONAL PROTECTIVE EQUIPMENT	Provide personal protective equipment fit for work activities and hazards and risks	Part 1, r 15, 16, 17
	Maintain and service PPE, and ensure it is used	

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EXPOSURE MONITORING AND HEALTH MONITORING OF WORKERS	Carry out health hazard exposure monitoring at suitable intervals, by or under the supervision of a competent person	**Part 3, r 32-42**
	Keep confidential exposure monitoring records for up to 40 years, and make them available to those potentially exposed	
	Inform workers of health monitoring and ensure appropriate health monitoring is provided, supervised and paid for	
	Provide appropriate information about the workplace to occupational health practitioners	
	Get health monitoring reports where appropriate from occupational health practitioners, and share them with the relevant worker, other relevant PCBUs, and the regulator	
	Keep confidential health monitoring records for up to 40 years	
YOUNG PERSONS	Ensure workers under 15 years do not do certain types of hazardous work, tasks, or work in certain areas, with certain types of machinery, or carry out night work (under 16s)	**Part 4, r 43-48**

LEGAL REQUIREMENTS FOR RISK ASSESSMENT

NOTES

Workplace Health and Safety Risk Assessment

NOTES

IDENTIFYING HAZARDS

What you need to know:

› The definitions for key terms including hazard, harm and risk

› Why it's important to establish the work context when identifying hazards

› A range of different tools for identifying hazards, and how they can be used

KEY TERMS

Hazards

Hazards are situations or things that have the potential to cause harm. Hazards at work may include many things, such as machinery, vehicles, chemicals, electricity, gravity, noise, dust, radiation, a sharp edge, a repetitive movement, an angry and abusive person, or an infectious disease.

Hazards are not risks or risk factors

When people try to identify hazards, they often identify other factors that affect risk in a situation, such as a person breaking a rule, rushing or being distracted. These things are not hazards. They are not the source of harm, but rather things that influence likelihood of something going wrong, or how bad the harm could be.

Hazards are not absent or failed controls

Another common trap when trying to identify hazards is to identify risk control measures that you think should be in place, but are not. Examples are: no hard hats being worn, no traffic management in place, no signs to warn of danger, or a loose handrail. These things are not hazards. They are absent (missing) controls or controls that are not working as intended.

IDENTIFYING HAZARDS

Harm

Harm means death, injury and illness, and includes both physical and psychological harm. Useful words to use when talking about harm are:

› **Acute** - harm that happens immediately

› **Chronic** - harm that happens gradually

› **Catastrophic** - harm (either acute or chronic) that results in death or permanent disability, or irreversible condition.

EXAMPLE

A manager identified that the heavy traffic next to the work site could cause acute harm (injuries from being run over) and chronic harm (long-term illness from breathing the exhaust fumes).

Event

An event is when a hazard gets out of control exposing people to harm.

Risk

Risk in the context of workplace health and safety is the possibility that harm might occur when exposed to a hazard. When talking about risk it is useful to describe a specific event in mind where a person can be exposed to a hazard, potentially resulting in harm. When estimating the **level of risk** to prioritise risks or choose between options, risk is often thought of as the likelihood of consequences.

Risk factors

A risk factor is something that affects the likelihood of an event and/or harm. There are many risk factors to take into account. Some are very common, but there will always be unique combinations of risk factors. Examples are: the energy involved (speed, mass, height, pressure, temperature), distraction, fatigue, bad weather, poor visibility, inappropriate equipment, time pressure, lack of information, pre-existing medical conditions, language barriers, etc.

Risk controls

Risk controls are the resources put in place to manage a risk. Risk can be eliminated altogether by getting rid of the hazard. Risk can be minimised by managing risk factors to reduce likelihood and/or consequences.

IDENTIFYING HAZARDS

ESTABLISHING THE CONTEXT

Hazard and risk management starts with an understanding of the work context. Hazards don't exist by themselves. The risks change depending on where the hazard is, what is happening and who is around. To understand the work context, you need to:

› **Have access to information from the workplace**

- The work environment itself, and the job or task being done

- Relevant policies, procedures, plans, rules and requirements

- Relevant incident, injury and ill-health records.

› **Have access to information from outside of the workplace**

- Regulations, Codes of Practice, Industry Guidelines

- Information from designers, manufacturers and suppliers

- Work plans, procedures and requirements from other PCBUs where there is cross-over work (e.g. sub-contractors, clients, landlords, local government).

› **Talk to people**

- Workers, supervisors and managers who have knowledge and experience of the workplace and the work being done

- People with specialist or technical knowledge, such as H&S practitioners, occupational hygienists, engineers, maintenance personnel and others.

A TOOL FOR ESTABLISHING CONTEXT

5W1H

› **W**here are we working? (Physical location)

› **W**hen are we working? (Time of day, time of year, season)

› **W**hat are we doing? (Task steps or plan)

› **W**hy are we doing the work? (Normal work, part of a process, work for a client, an emergency situation, fixing a problem, etc.)

› **W**ho is involved? Who might be affected? (Our team, other PCBUs we are working with, people nearby, members of the public)

› **H**ow are we doing the work? (Tools, equipment, methods)

EXAMPLE

The work site is outside a school, on a busy street. The job is planned for 7am till 12 noon. We will be excavating to find a gas leak in a pipeline. It's an emergency call-out and this is normal work for us. There will be us and two other sub-contractors working at the same time, one of which we've never worked with before. Other organisations involved are the City Council, NZTA, the school, and the dairy across the street. People who are not working on the job but may be affected are students and their carers, school staff, the dairy owner, and drivers on the road. We will use a hydro-excavator to locate the leak and various hand tools to do the repair.

TOOLS FOR IDENTIFYING HAZARDS

There are many different ways of identifying hazards. The methods used and the detail needed will depend on the scope, complexity and nature of the hazards and the workplace. For example, hazard identification for a large chemical manufacturing plant will be more in-depth than hazard identification for a small steel fabrication company.

Whatever the situation, hazard identification must be:

› Systematic

› Comprehensive

› Appropriate to the situation.

We will look at some useful methods for hazard identification.

Incident investigation

Hazard categories

Area analysis

Task analysis

Expert advice

HAZARD IDENTIFICATION TOOLS

Official publications

Data analysis

Process analysis

Hazard categories

Using hazard categories when identifying hazards has a number of clear benefits:

› **Thorough** - it prompts you to think about a wide range of potential hazard types, some of which may not be immediately obvious in a work environment.

› **Consistent** - It can improve the quality of hazard identification, even when different people are involved.

› **Systematic** - it provides a concise and focused process to follow, which can be audited, and guards against a 'scattergun' approach to identifying hazards.

	Mechanical / stored energy Vehicles, machinery, electricity, pressure, heat, height
	Chemical Irritant, corrosive, toxic or carcinogenic substances
	Environmental Light, noise, dust, extremes of temperature, radiation
	Biological Bacteria, viruses, fungi, insects, mammals, fish, birds
	Ergonomic Interface between human and the task; manual handling, repetitive movements
	Psychosocial Bullying, stressful work conditions, excessive workloads, long hours

IDENTIFYING HAZARDS

Area analysis

An area analysis is a walk through each of the different areas or 'work environments' in your workplace. It is useful to have a checklist or inspection form to do this so you are prompted on what to look for. You can write down lists of identified hazards, or record the hazards directly onto a plan of the site and/or buildings.

In many workplaces the most common hazards and risks are well known. These 'generic' hazards are very important to identify and manage. They are likely to be classed as 'foreseeable' by any court of law, should they cause harm.

Checklists will also ensure that hazard identification exercises and inspections are comprehensive, consistent and repeatable. They give formal structure to the area analysis and guide the people involved to look for issues that may not be immediately obvious.

Suggested approach:

1. Locate up-to-date plans of the workplace

2. Find someone who has a good working knowledge of the workplace and what happens there

3. Divide into areas and go to each with a checklist

4. List potential hazards in each area using the hazard categories

5. Consider both acute and chronic effects

6. Consider not only safety impacts (injuries) but also health effects (illness)

7. Take into account not only physical but also psychological harm.

Task analysis

Task analysis can be used to make improvements in reliability, efficiency, health and safety. To use task analysis effectively to identify hazards, you will need to:

1 Identify and separate individual tasks—it can become complicated if you try to analyse more than one task at once

2 Make sure the aim of the task analysis is clear to all (improve safety, efficiency, reliability, to develop a procedure, etc.)

3 Collect detailed information about the task—what is involved including all equipment, materials and substances—by talking to the workers themselves, through observation, from training manuals, and existing procedures, operating instructions, etc.

4 Break the task down into steps (between 7 and 10 is ideal); describe and record each step needed to achieve the task goal

5 Carefully analyse each step for exposure to hazards.

Be careful to only include steps needed to achieve the goal of the task, and not precautions or controls. Add these only after all hazards are identified. For example, task steps for making a cup of tea:

1 Put water in the kettle

2 Boil the water

3 Put tea bag in cup

4 **Be careful not to burn yourself with the hot water**

5 Pour boiling water into cup

6 Leave to steep/mash

7 Remove tea bag

8 Add milk if desired.

Step 4 is not a task step, it is a risk control measure - a precaution.

IDENTIFYING HAZARDS

ACTIVITY

CHANGING A CAR TYRE

Using task analysis, identify the hazards a person is exposed to for each step of the task of changing a car tyre on the side of a busy road.

Task steps (in sequence)	Hazards

Process analysis

There are a number of different tools that can be used to analyse processes, such as fault trees, event trees, Failure Modes and Effects Analysis (FMEA), or hazard and operability studies (HAZOP). These tools can be quite complex and are often done by a team of specialists.

Data analysis

Data collected by your reporting system should include hazards, incidents, near misses, ill-health, self-reported discomfort and more. This can be a rich source of information and insight with the right analysis. Some other examples of documents that may help identify hazards are:

› Incident investigation reports

› Minutes of meetings where production challenges are discussed

› Permit-to-Work documents which may show problems or delays with work because of hazards

› Quality control records which may show product damage

› Maintenance records which may show frequent breakdowns and damage to plant and buildings.

IDENTIFYING HAZARDS

Official publications, codes of practice

Many of the hazards in your organisation will be very similar to the hazards in countless similar companies across the country, and internationally. A very important way of identifying hazards in your workplace is to check published codes of practice, industry guidelines and standards. They are available to download from WorkSafe.

Expert advice

In many cases, people with lots of knowledge and experience in a particular field will have an in-depth understanding of the hazards and risks involved and how best to manage them.

Incident investigation

The fact that an incident has occurred indicates that either:

› There is a hazard and risks that haven't been identified and controlled

› A control measure is not working as it should.

Investigations can be used in this way to identify hazards.

NOTES

ASSESSING RISKS

What you need to know:

› The purpose of risk assessment and why it is important

› The concept of initial and residual risk

› How to analyse risk including taking into account the context and a range of factors affecting likelihood and consequences

› Using the risk matrix as a tool for comparison and prioritisation

› Risk evaluation and the concept of 'reasonably practicable'

› How to identify critical risks and why this is important

› The role of risk perception and bias

THE PURPOSE OF RISK ASSESSMENT

Risk assessment allows you to:

› Identify **critical hazards and risks**

› **Estimate a level of risk to compare and prioritise risks**

› **Identify and prioritise actions** needed to manage risk

› **Evaluate** whether a risk is **acceptable or whether more should be done.**

Risk assessment is an important decision-making tool. It can be used in any work environment, and by everyone from senior managers to front-line workers. It's a structured way of working through what you know and don't know, what the assumptions are, what the key things are to pay attention to and what success will look like. In short, it's a way of working out and agreeing on what 'common sense' looks like for the work you are planning.

Common sense

Common sense can be seen as:

"A collection of past experiences which allows good sense and sound judgement in practical matters"

Common sense turns out to be very subjective, and is only common when people communicate well and build a shared understanding. It is important that trivial risks are not blown up out of proportion by the risk assessment process. But it's equally important not to downplay a very significant risk with the excuse that it is highly unlikely to turn into a reality because it has "never happened to us".

ASSESSING RISKS

Prioritising for action

Estimating the level of risk can be helpful in situations when action and resources have to be prioritised. Organisations can compare risks using the same set of criteria to show a reasonable decision-making process.

Initial and residual level of risk

As discussed earlier, it is useful to think of 'risk' as a description of something that might happen. When we talk about 'level of risk', we are trying to put a number or value on the 'amount of risk'.

Initial level of risk is sometimes seen as 'raw' risk, not taking into account any control measures. This can be appropriate in some contexts, such as the design phase of a project. In most cases however, initial risk is best seen as 'risk as things are right now' - at the start of the risk assessment activity.

Residual level of risk refers to the expected level of risk once the planned risk control measures have been properly implemented.

ANALYSING THE LEVEL OF RISK

The **level of risk** can be estimated by analysing two things:

1   The **severity of consequence(s)**

2   The **likelihood** of the consequences occurring

SEVERITY OF CONSEQUENCES

LIKELIHOOD OF CONSEQUENCES
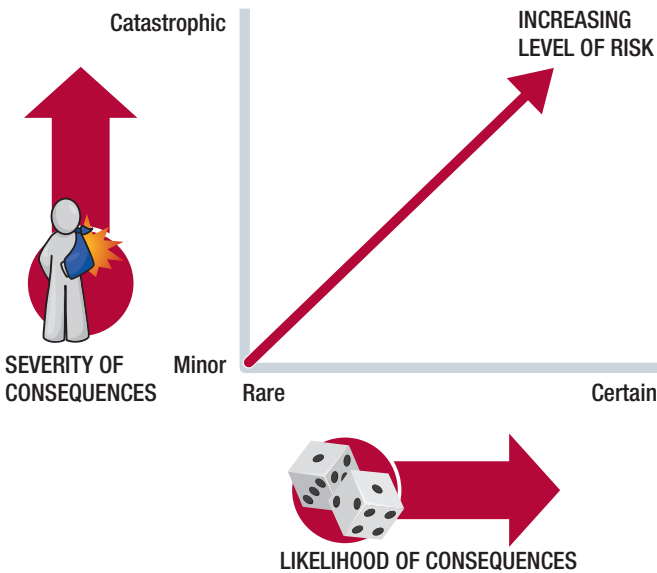
EXAMPLE

The team analysed the level of risk of being hit by a vehicle as high, based on the fact that the traffic is moving fast, and the job involves crossing the road every few minutes. By comparison, the risk of being hit by the excavator was not as high, because it would only be on site for a few hours. Both vehicles and excavators can cause fatal injuries, but the team judged the level of risk from vehicles as higher in this case.

ASSESSING RISKS

Likelihood of consequences

Likelihood means the chances of harm occurring. There are many ways to do this, from complex 'quantitative' methods using calculations and data, to more 'qualitative' methods, based more on personal judgement.

Here are some examples of things to take into account when estimating likelihood of harm:

› **Exposure**: The more interactions with a hazard, for longer periods of time, and involving greater numbers of people, the more opportunities there will be for harm

› **Advice** from people who are experienced and knowledgeable

› **Publications**, guides and statistics to give 'the bigger picture'

› **Data** from reporting of injuries, illness, near misses, maintenance requests, environmental incidents, damage reports and so on.
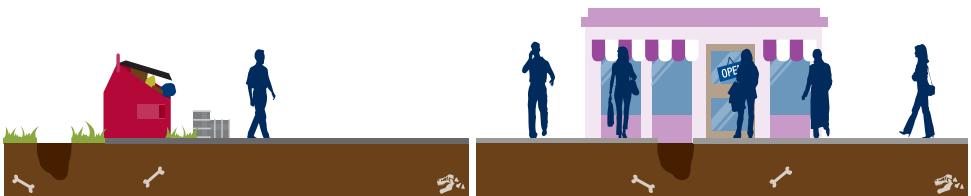
EXAMPLE

Think of the same size hole, but in two different locations:

1   Out the back of a vacant plot where few people ever go

2   In the middle of a busy street where lots of people walk often.

There is a greater likelihood of harm when the hole is in the middle of a busy street.

Severity of consequences

When estimating the potential severity of consequences, take into account:

› **Energy or force:** Hazards which are bigger, heavier, higher, deeper, sharper, faster, more concentrated, hotter and so on are usually able to cause more severe harm, such as death or permanent disability.

› **Numbers of people affected:** Consequences are worse when many people are likely to be harmed.

› **Frequency of exposure:** Frequent exposure to some hazards can have cumulative effects which are more severe than each individual exposure.

› **Duration of exposure:** Some hazards (eg chemicals, dust, noise) cause more harm the longer a person is exposed.

› **Personal vulnerability**: Certain individuals or groups are more vulnerable to certain hazards—ie the effects have been shown to be worse, or the threshold where harm occurs is lower.

EXAMPLE

Regardless of where it is, a very deep hole has a greater potential (gravity) to cause more severe injuries if someone falls into it.
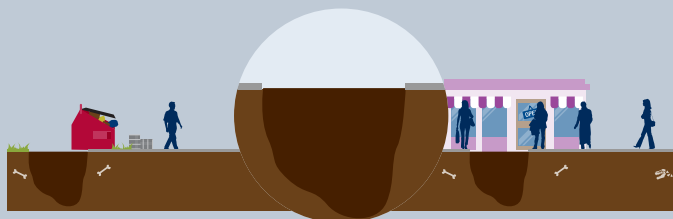
ASSESSING RISKS

The risk matrix—a risk analysis tool

A risk assessment matrix is a way of analysing the level of risk so that different risks can be compared and prioritised for action.

		LIKELIHOOD				
		Highly Unlikely	Unlikely	Possible	Likely	Almost Certain
CONSEQUENCE SEVERITY	Major (Fatality)	H 18	H 19	E 23	E 24	E 25
	Significant (Permanent disability)	M 13	H 16	H 17	E 21	E 22
	Moderate (Restricted work)	L 6	M 11	M 12	H 15	E 20
	Minor (Medical treatment)	L 4	L 5	M 9	M 10	H 14
	Insignificant (First Aid)	L 1	L 2	L 3	M 7	M 8

KEY POINT

The risk matrix can help with consistency in making team decisions about risk. The key questions are: What are the priorities? Is it OK to proceed?

Severity of consequences

Level	H&S	Financial	Reputation	Environment
Insignificant	Discomfort	< $1,000	Negligible	Limited
Minor	Medical treatment	< $10,000	Minimal	Minor
Moderate	Lost time	< $100,000	Limited	Moderate
Major	Debilitating	< $1 million	Significant	Serious
Catastrophic	Fatality	> $1 million	Un-recoverable	Very serious

Likelihood of consequences

Level	Description
Highly Unlikely	May occur only in exceptional circumstances, local chances less than 0.1% per year
Unlikely	May occur in the industry, local chances more than 0.1% but less than 1% per year
Possible	Has occurred in the industry, local chances more than 1% but less than 10% per year
Likely	Has occurred locally, chances more than 10% but less than 50% per year
Almost certain	Known issue, is expected to occur more than 50% of the time

RISK EVALUATION

This means making a judgement about whether the level of risk is OK or not OK, why, and what must happen next. The risk analysis helps us to make this judgement, and also to prioritise risks for action.

LEVEL OF RISK	WHAT IT MEANS
E (Extreme risk)	Stop activity or process immediately, and don't continue until the risk has been reduced.
H (High risk)	Manage risk immediately.
M (Medium risk)	Action required but not immediate.
L (Low risk)	Manage through continuous improvement.

So far as is reasonably practicable

The HSW Act 2015 requires risks to be eliminated or minimised 'so far as is reasonably practicable' (SFAIRP) (s30). This means taking action which is, or was, at a particular time, reasonably able to be done in relation to ensuring health and safety, taking into account and weighing up all relevant matters (likelihood, degree of harm, knowledge, availability of risk controls, and cost).
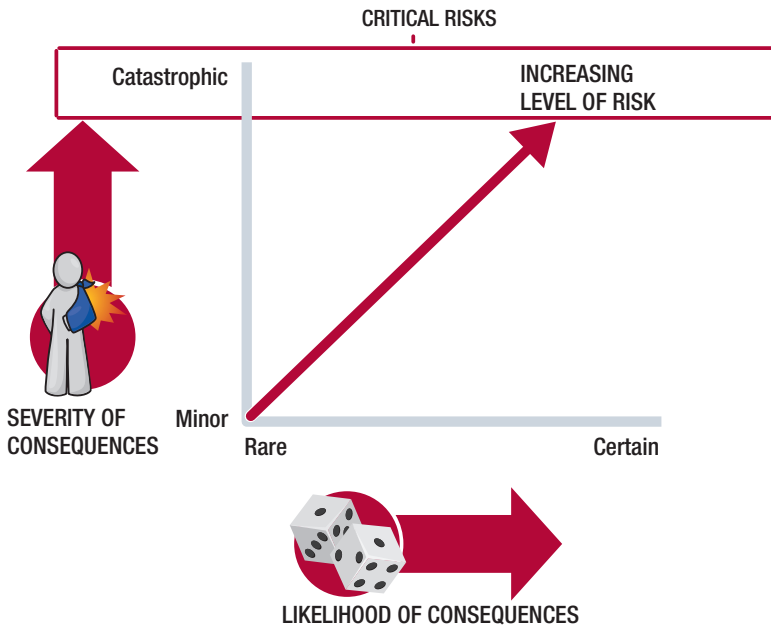
KEY POINT

To test 'SFAIRP' the Court of Law will ask in hindsight - "Could more have been done to control the risk?" The Court will compare actions taken against best practice and the current state of knowledge. Furthermore, SFAIRP in NZ includes governance practices in relation to health and safety risks.

CRITICAL RISK

A critical risk is any risk of catastrophic harm. Catastrophic harm means death(s) or permanently disabling injury or illness. Regardless of the likelihood of harm, these hazards should be taken very seriously. The risk controls required should be evaluated and planned in a more detailed way, for example using Bow Tie diagrams.

CRITICAL RISKS

Catastrophic

INCREASING LEVEL OF RISK

Minor

SEVERITY OF CONSEQUENCES

Rare

Certain

LIKELIHOOD OF CONSEQUENCES

KEY POINT

Critical risks: An organisation must always do everything it can to control risks where the consequences are catastrophic. Always ask the question "What have we done so far, and can we do more to eliminate or minimise the risk?"

ASSESSING RISKS

RISK PERCEPTION AND BIAS

"We do not see reality; rather, we interpret what we see and call it reality"
- Daniel Kahneman, Thinking: Fast and Slow

Perception is the process by which we select, organise and interpret stimuli from our senses into a meaningful and coherent picture of the world. But perception is subjective. Two people can see or hear the same thing and have very different perceptions. This is because perception is shaped by our life experiences, knowledge, memories, emotions and expectations. There are two strong biases that are especially relevant to the way we perceive risk: optimism bias and availability/recency bias.

Optimism bias

This is the assumption that 'it will never happen to me'. It leads us to downplay risks that are well-known such as using a mobile phone while driving, because we believe that we have special abilities and bad things only happen to 'other people'.

Availability/recency bias

Something easily called to mind or in our recent memory will loom large. People who have never seen XYZ will downplay the risk. People recently affected by XYZ will overestimate the risk.

Hindsight bias

Hindsight bias is the tendency to see things that have already happened as much more foreseeable than they were before they happened. It is a psychological phenomenon that allows people to convince themselves after an event that they could have accurately predicted it before it happened. This can lead people to conclude that they can accurately predict other events.

The dangers of hindsight bias for risk assessment are that it can:

› Create overconfidence

› Lead to blame

› Stifle learning and improvement.

KEY POINT

Our perceptions of risk (what is dangerous and uncertain, or safe and secure) are strongly influenced by our past experiences and the conclusions we have made from them about how the world is. These conclusions become assumptions or 'biases' and can lead to people having very different views of the same thing.

ASSESSING RISKS

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CONTROLLING RISKS

What you need to know:

› How to apply the hierarchy of control to build a risk control plan

› The importance of recovery and emergency response to risk control plans

› The concept of defence in depth and how to use it to test your risk control plans

KEY CONCEPTS

Organisations should use the most effective risk controls that are reasonably practicable in the circumstances. Risk controls should either get rid of the risk or reduce it to a level where everyone is comfortable, including the regulator (WorkSafe).

Risk controls can:

› **Prevent** hazards from causing harm, limit severity of consequences and help **recovery** if harm does occur

› Provide **collective** protection (e.g. nets on scaffolding protects everyone from falling objects) or **individual** protection (e.g. a hard hat only protects the wearer)

› Provide **high reliability** (e.g. automatic safety devices such as a light curtain or RCD) or **low reliability** (e.g. a warning sign or rule to keep clear).

The concept of the **hierarchy of control** requires organisations to first consider risk control measures that are preventative, provide collective protection and are most reliable.

WorkSafe expects organisations to put risk controls together to form a **safe system of work** (SSOW). A SSOW has many different types of risk control that are designed to work together so that tasks can be done efficiently, productively and safely.

EXAMPLE

The team decided to use an impact barrier vehicle because it is a more reliable risk control. The usual cones, warning signs, speed limits are only reliable to a point - and the risk of a high speed collision on the motorway was high enough to justify the cost.
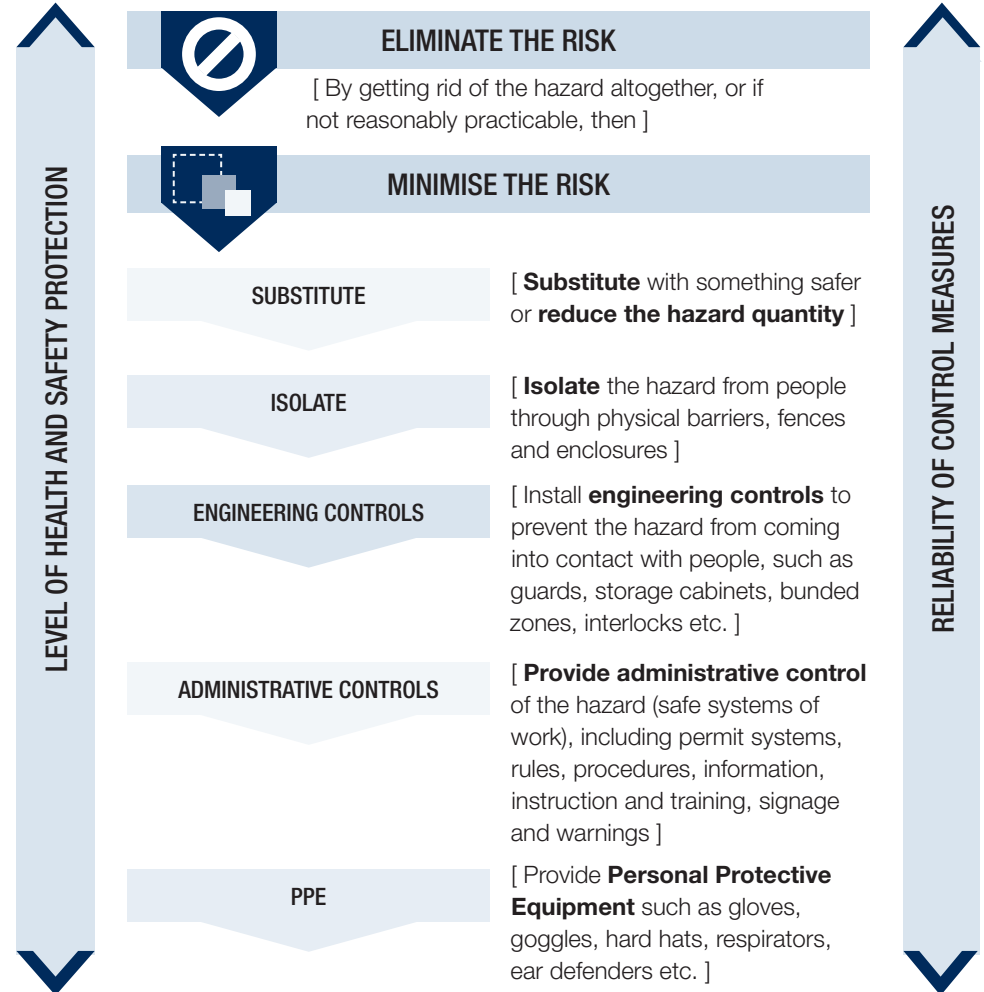
CONTROLLING RISKS

The Hierarchy of Risk Control

The Health and Safety at Work (General Risk and Workplace Management) Regulations 2016 [⚖] **r6** set out a preferred order or hierarchy of risk control that duty holders must use.

HIGHEST

MOST

LEVEL OF HEALTH AND SAFETY PROTECTION

RELIABILITY OF CONTROL MEASURES

ELIMINATE THE RISK

[By getting rid of the hazard altogether, or if not reasonably practicable, then]

MINIMISE THE RISK

SUBSTITUTE
[**Substitute** with something safer or **reduce the hazard quantity**]

ISOLATE
[**Isolate** the hazard from people through physical barriers, fences and enclosures]

ENGINEERING CONTROLS
[Install **engineering controls** to prevent the hazard from coming into contact with people, such as guards, storage cabinets, bunded zones, interlocks etc.]

ADMINISTRATIVE CONTROLS
[**Provide administrative control** of the hazard (safe systems of work), including permit systems, rules, procedures, information, instruction and training, signage and warnings]

PPE
[Provide **Personal Protective Equipment** such as gloves, goggles, hard hats, respirators, ear defenders etc.]

LOWEST

LEAST

THE HIERARCHY IN MORE DETAIL

It is important to look at the highest levels of control measures first.

However, each method of hazard control has its advantages and disadvantages, and in practice, multiple methods are likely to be applied simultaneously to reduce risk.

Eliminate

The most effective control involves eliminating the hazard. The best way to do this is by not introducing the hazard into the workplace in the first place. For example, you can eliminate the risk of a fall from height by doing the work at ground level.

Eliminating hazards is often cheaper and more practical to achieve at the design or planning stage of a product, process or place used for work. In these early phases, there is greater scope to design out hazards or incorporate risk control measures that are compatible with the original design and functional requirements. For example, a noisy machine could be designed and built to produce as little noise as possible, which is more effective than providing workers with personal hearing protectors.

You can also eliminate risks by removing the hazard completely, for example, by removing trip hazards on the floor or disposing of unwanted chemicals.

It may not be possible to eliminate a hazard if doing so means that you cannot make the end product or deliver the service. If you cannot eliminate the hazard, then eliminate as many of the risks associated with the hazard as possible.

CONTROLLING RISKS

Minimise

If it is not reasonably practicable to eliminate the hazards and associated risks, you should minimise the risks using one or more of the following approaches:

Substitute

Substitute the hazard with something safer, or a smaller amount, so that less harm is possible if the hazard becomes uncontrolled. For instance, replace solvent-based paints with water-based ones. Store 5 litres of fuel instead of 50 litres.

Isolate

This involves physically separating the hazard (source of harm) from people by distance or using barriers, fences and enclosures. For instance, install guard rails around exposed edges and holes in floors; use remote control systems to operate machinery; store chemicals in a fume cabinet.

Use engineering controls

An engineering control is a control measure that is physical in nature, including a mechanical device or process. For instance, use mechanical devices such as trolleys or hoists to move heavy loads; place guards around moving parts of machinery; install residual current devices (electrical safety switches); set work rates on a production line to reduce fatigue.

Use administrative controls

Administrative controls are work methods or procedures that are designed to minimise exposure to a hazard. For instance, develop procedures on how to operate machinery safely, limit exposure time to a hazardous task, use signs to warn people of a hazard.

Use Personal Protective Equipment (PPE)

Examples of PPE include ear muffs, respirators, face masks, hard hats, gloves, aprons and protective eyewear. PPE limits exposure to the harmful effects of a hazard but only if workers wear and use the PPE correctly.

Administrative controls and PPE should only be used:

› When there are no other practical control measures available (as a last resort)

› As an interim measure until a more effective way of controlling the risk can be used

› To supplement higher level control measures (as a back-up).

Administrative controls and PPE do not control the hazard at the source. They rely on human behaviour and supervision, and used on their own, tend to be least effective in minimising risks.

RECOVERY/EMERGENCY RESPONSE

Despite our best attempts, there is a risk that controls may fail. Emergency response aims to minimise the harmful effects of a hazard which has become uncontrolled.

Emergency response procedures are not a hazard control measure, but they are important to help reduce the severity of harm to people, the environment and the business.

Some examples of emergency response controls are:

› First aid

› Call emergency services

› Call on-site emergency response team.

SAFE SYSTEMS OF WORK

A Safe System Of Work (SSOW) is a set of risk controls that have been designed to work together so that a task can be done efficiently, productively, safely and without risks to health. It is the end result of the risk assessment, and how the results of the risk assessment process are operationalised.

SSOW includes 'hard defences' such as items of warning or detection equipment, guards, barriers, fail safe devices and protective equipment, as well as 'soft' defences such as information, instruction, training, supervision, experience, and knowledge. Post-incident defences such as escape and rescue planning and resourcing are also important to consider.

QUOTE

PCBUs must, so far as is reasonably practicable, provide and maintain safe systems of work. Developing a safe system of work is a formal procedure carried out by a person with sufficient knowledge and experience.

It involves:

› Systematically examining a task to identify risks that may arise from carrying it out

› Identifying safe methods including control measures to eliminate or minimise the identified risks

› Setting out and putting into practice the methods to safely carry out the task.

- Introduction to the Health and Safety at Work Act 2015: A Guide to New Zealand's Key Work Health and Safety Law and Its Regulator. WorkSafe: February 2019, 2nd Edition

ELEMENTS OF A SSOW	HOW IT WORKS	EXAMPLES
Awareness	Helps workers to understand and be on the lookout for risks and risk factors	Information, training, instruction and supervision, pre-job briefings, plans, diagrams, experience, procedures
Detection	Alerts or warns workers of the presence and nature of a potentially hazardous situation	Warning lights and sirens, signs and notices, atmospheric hazard detectors, alarms, audible signals, fire detectors, motion detectors, a spotter or safety watch person
Control and Recovery	Controls the energy of the hazard or access to the hazard	Machine guarding, fences, screens, impact barriers, enclosures, pressure relief valves, auto shut down systems, circuit breakers, residual current devices, trip switches and interlocks
Protection and Containment	Limits the impact or harm of a hazard if it becomes uncontrolled. Prevents escalation of the problem	Personal protective equipment, airbags, fire fighting media, spill kits, bunded areas, first aid
Escape and Rescue	Evacuate people from the hazardous area. Rescue people who cannot evacuate themselves	Emergency escape routes, emergency planning, emergency communications, rescue equipment and capability

DEFENCE IN DEPTH

The concept of defence in depth originated in the Nuclear Power Industry. Put simply, it is a means to gain a high level of assurance that a critical risk will be managed effectively.

Defence in depth is achieved through:

› Redundancy: Many layers of protection and control

› Diversity: Many different varieties of protection

› Independence: Layers of protection are able to work by themselves.

Although the defences are independent from each other, they are also integrated in that they have been designed, planned and put into practice in a purposeful way, including worker engagement and participation, and taking into account operational experience.

Defence in depth in practice

Objective: Lay 200m of concrete pipe into a trench using an excavator.

Risk controls:

1 Trained and experienced excavator operator

2 Trained and experienced site workers

3 Trained and experienced spotter watching out for others

4 Site perimeter cones and warning signs to mark exclusion zone

5 Site rule to wear high visibility clothing

6 Site induction and daily pre-start briefing

7 Movement sensor on excavator exterior interlocked to movement actuators in the cab

8   Finger print recognition required to start the excavator

9   Site designed so that other workers or vehicles don't need to come near excavation areas

10 Task designed so that workers are not needed near the excavation at any time while the excavator is operating

11 Use directional drilling techniques wherever technically possible and financially viable

12 Emergency response plan and equipment available.

Analysis

Redundancy: There are 11 preventative defences and one recovery defence.

Diversity: The defences are a mix of technical (7, 8), procedural (9-12) and behavioural (1-6), and involve operational, planning and management roles.

Independence: Some controls depend on local behaviour and supervision (1-6), others on reliability of engineered controls (7, 8) and others rely on pre-work planning and preparation (9-12).
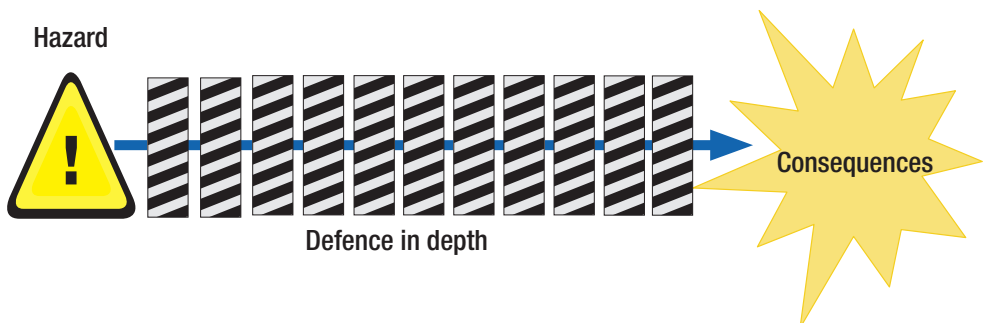
Hazard

Consequences

**Defence in depth**

NOTES

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MONITORING AND REVIEW

What you need to know:

› How to effectively monitor the inputs, processes and outputs of workplace health and safety risk assessment

› The differences between proactive and reactive monitoring

› The purpose of reviewing, and how and when to review a risk assessment

MONITORING

Monitoring involves planned activities designed to get and regularly update information about hazards, risk controls, and the people who could be affected by the hazards. Effective monitoring should involve three approaches:

1   **Inputs:** Monitoring changes to hazards and the work context to ensure we identify new or different risks

2   **Processes:** Monitoring and maintaining risk controls to make sure they are being implemented and are working as intended

3   **Outputs:** Monitoring for the effects of hazards on health.
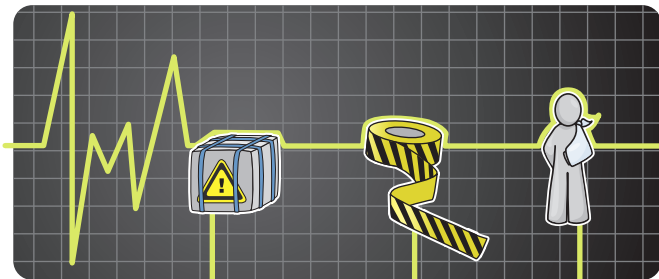
1. Hazards and risk factors
Did we understand our hazards and the risks they present? Did we understand how the risk changed? Did we plan appropriately?

2. Risk control measures
Are they suitable for the work and my team? Are they enough to control the risk? Are they implemented?

3. The effects or impacts of hazards
How many and what types of injuries and illnesses, damage, near misses, and dangerous occurrences did we have? Were our work areas and teams safe and healthy?

Proactive and reactive monitoring

Day to day, job to job, how do you know if your team is safe and healthy? How can you be confident they will get home safe and well to their loved ones?

Measuring health and safety performance involves two types of monitoring:

› Proactive - this is checking on the **actions taken to create health and safety**, and involves monitoring hazards and risk factors, and monitoring and maintaining risk controls e.g. checking the quality of risk assessments, doing pre-job briefings, doing equipment checks, workplace inspections, applying safe systems of work etc.

› Reactive - this is recording **outcomes** of the work - e.g. injuries, near misses, delays, damage, work quality, housekeeping etc.

FOCUS ON CRITICAL RISKS

A critical risk is any risk of catastrophic harm.

As a health and safety representative, team leader or supervisor, you have two important roles:

1   To understand what the critical risks are that threaten your team, and remind your team of them regularly

2   To understand what the key control measures are for the critical risks and to make sure they are in place and effective.

You can't afford to wait for something to go wrong with a critical risk - the consequences are too serious. So you must rely on proactive monitoring of the key risk controls.

EXAMPLE

Your team is working on the road side, excavating to lay new water mains. You know the critical hazards are underground and overhead services, public vehicles, and mobile plant. You only have one hour to check up on their progress, so you focus on the actions and engineered controls designed to minimise the risk of service strike, and pedestrian vs vehicle or plant incidents.

KEY POINT

When you visit your team, what should you focus on, especially if you don't have much time? Have conversations to check your team's understanding of the relevant critical hazards and risks, and how they are being controlled. Then go and find out for yourself.

Duty to maintain effective control measures

r7

The Health and Safety at Work (General Risk and Workplace Management) Regulations 2016 regulation 7 requires the following:

A PCBU who implements a control measure to eliminate or minimise risks to health and safety must ensure that the control measure is effective, and is maintained so that it remains effective, including by ensuring that the control measure is and continues to be:

› Fit for purpose

› Suitable for the nature and duration of the work

› Installed, set up, and used correctly.

Duty to monitor health and exposure 🔨 **r32-42**

The Health and Safety at Work (General Risk and Workplace Management) Regulations 2016 regulations 32-42 set out duties relating to monitoring exposure to health hazards. This includes:

› Duties relating to exposure monitoring (health hazards in the work environment)

› Duties relating to health monitoring, including:

- Duty to inform worker of health monitoring

- Duty to ensure appropriate health monitoring is provided

- Duty to ensure health monitoring is supervised and pay costs

- Information that must be provided to the occupational health practitioner

- Duty to obtain health monitoring report, and give to worker

- Duty to give health monitoring report to relevant PCBUs

- Duty to give health monitoring report to regulator on request

- Keeping health monitoring records.

Proactive monitoring

Putting controls in place is only the first part of the picture. Controls must be monitored to assess their effectiveness.

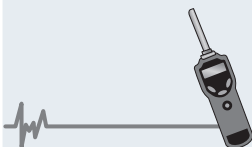|	
Planned inspections	To identify any new hazards, and to check that control methods are in place for existing hazards and meet the required standards.
Checking training and competence	Of workers before they arrive in the workplace—passport to work schemes are an example of this.
Pre-emptive maintenance	Of plant and equipment to check, adjust, replace, sharpen, clean, lubricate etc. To find and fix problems before they cause safety or quality problems.
Testing	(Eg engineering controls, warning alarms, sensors etc.) To make sure they are working and to pick up faults as quickly as possible.
Environmental monitoring	(Eg noise, air quality, chemical sampling) to monitor hazards and check that the control measures are actually keeping hazards at safe levels. Where hazards are minimised, the PCBU must measure worker exposure levels to certain hazards in the environment to make sure that the levels are safe. For example, if there is noise in the work environment, the noise levels should be measured to help assess the significance of the hazard, and to make sure that levels do not exceed workplace exposure standards set by the government.

Health/biological monitoring	(Eg hearing tests, lung function tests and x-rays, blood/urine/saliva tests, and health questionnaires). Health monitoring is needed where there is ongoing exposure to hazards which have been isolated or minimised. The idea is to diagnose the early signs of ill-health in workers caused by exposure to a hazard. Any problems can be investigated and fixed. An example is the early signs of hearing damage — which may indicate that noise control measures are not working as they should.
Supervision	To check that behavioural control measures, training and instruction (eg following procedures, wearing PPE) are being followed.

Reactive monitoring

These monitoring activities aim to provide the PCBU with information so that they can learn as much as possible when things do go wrong. This is so that improvements can be made to control methods and systems. We can do this by:

Investigate reported incidents	Investigate property damage, environmental harm, injuries and ill-health, and near miss events to identify uncontrolled hazards, new risks, absent or failed risk controls, organisational factors and take action to make improvements
Respond to hazard and near miss reports	Make changes so they don't cause further danger
Analyse data	Incident and ill-health records can be used to spot any trends or incident hotspots (eg times, locations, people and tasks) which indicate problems with the hazard management system.

REVIEW

Reviewing involves evaluation of performance data and discussion with key people to identify positives and areas for improvement. It recognises the importance of learning from all relevant experiences and applying what is learned for continual improvement.

Reviewing involves:

› Evaluating progress towards objectives

› Considering key performance indicators

› Benchmarking against best practice, national and international statistics, and the performance of other similar organisations.

The role of auditing

Auditing is the tool that is used to measure the entire health and safety management system to see how well it is performing at a particular point in time. Audits examine documentation such as permits to work, incident reports, minutes of meetings, the hazard register and policies. Audits then look at the workplace and interview workers and managers to see how well the management system is working at a practical level.

Review timescales

When to review a risk assessment:

1   After a designated time (high risk = shorter review period)

2   After an incident

3   After any significant change to people, equipment, environment, procedures, and organisation.

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GLOSSARY OF TERMS

ACC	Accident Compensation Corporation.
Approved codes of practice	Developed by WorkSafe NZ and approved by government minister; sets out how to do certain things safely. Accepted in court as means of compliance in specific situations.
Event	When a hazard gets out of control exposing people to harm.
Good faith	A concept set out in the Employment Relations Act that describes positive ways of working and communicating between two groups e.g. workers and management.
Guidelines	Developed by WorkSafe NZ and/or Industry Body; sets out how to do certain things safely. Accepted in court as means of compliance in specific situations.
Harm	Death, injury and illness, including both physical and psychological harm.
Hazard	A situation or thing that has the potential to cause harm.
Incident	An unwanted event that caused or could have caused, harm, damage or loss of some kind.
Officer	Person with significant influence over the management of the business or undertaking, such as Director, Chief Executive and Partner.

PCBU	Person (legal entity) Conducting a Business or Undertaking.
PPE	Personal protective equipment.
Psychosocial	Relating to mental health in individuals and relationships between people.
Qualitative	Involving judgements, opinion and intuition.
Quantitative	Something that involves the measurement of quantity.
Reasonably practicable	Action which is, or was, at a particular time, reasonably able to be done in relation to ensuring health and safety, taking into account and weighing up all relevant matters, including likelihood of the risk occurring, degree of harm that might result, knowledge about the hazard or risk, and risk control measures, availability and suitability of risk control measures, and cost of risk control measures, including whether the cost is grossly disproportionate to the risk.
Regulations	Made under the Health and Safety at Work Act (specifically health and safety related regulations). Legally enforcible, with specific duties and duty holders.

Risk	The possibility that harm (death, injury or illness) might occur when exposed to a hazard, including an estimation of the likelihood of an event occurring where someone is exposed to a hazard, and the consequence(s) of exposure to the hazard.
Risk control	An action taken to eliminate or minimise the risks to health and/or safety.
Standards	Developed by standard setting bodies e.g. Standards NZ, Standards Australia, ISO etc. Specific and detailed requirements for conformance to a standard.
Worker	A person who carries out work in any capacity for a PCBU, including an employee, a contractor or subcontractor, an employee of a contractor or subcontractor, an employee of a labour hire company, a homeworker (person who works from home), an apprentice or trainee, a person gaining work experience, and a volunteer.

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Useful Websites

New Zealand Government

www.worksafe.govt.nz   WorkSafe NZ

www.standards.co.nz   Standards New Zealand

www.acc.co.nz   Accident Compensation Corporation

www.fireandemergency.nz   Fire and Emergency New Zealand

www.police.govt.nz   New Zealand Police

www.legislation.govt.nz   New Zealand Legislation

www.getthru.govt.nz   Get Thru Emergency Management

www.civildefence.govt.nz   Ministry of Civil Defence

www.eqc.govt.nz   Earthquake Commission
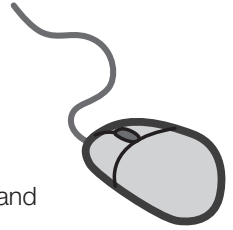
Private organisations

www.impac.co.nz   IMPAC Services Ltd

www.safeguard.co.nz   Safeguard Magazine

Trade unions

www.union.org.nz   New Zealand Council of Trade Unions

KEY POINT

For more useful websites and resources we recommend you login to IMPAC's student portal.

New Zealand Qualifications Authority: Course Information

Assessment

› NZQA assessment requirements will be explained by your trainer

› Assessment can be verbal if required

› Please let us know of any concerns you may have about completing the assessment criteria

› Assessment in te reo Maori is allowed but you must apply in writing to our training office.

Re-assessment

› Your trainer will advise you what you need to do to complete a re-assessment

› Re-assessment material is forwarded to our Napier office for marking.

Appeals of Results

1 Please contact our Training Manager on 0800 246 722 in the first instance

2 Your assessment can be re-marked by another IMPAC assessor if you are unhappy with your result

3 If you are not satisfied following re-marking, you can ask for independent moderation from the Industry Training Organisation (ITO).

Complaints

If you wish to make a formal complaint, you must:

☑	Write to the Training Manager, PO Box 308, Napier
☑	Provide full details of your complaint
☑	Please provide specific details of your complaint, including dates, times, and places
☑	Include your contact details (name, address, telephone number, email).

The Training Manager will:

☑	Acknowledge receipt of your complaint
☑	Log your complaint
☑	Analyse the content of your complaint
☑	Undertake an internal investigation of your complaint
☑	Advise you in writing of the outcome of the internal investigation.

OTHER IMPAC COURSES YOU MAY BE INTERESTED IN ARE:

H&S Coordinator Stage 3: Practical H&S Risk Management

This is an in-depth two day program. Students will learn about identifying, assessing, controlling, and monitoring hazards at a level that will ensure systems and legislative compliance, as well as implementing the hierarchy of control and the application of a risk assessment matrix to assess and prioritise hazards. Students will learn how every workplace must develop, implement, monitor, and continuously improve safe and healthy systems of work.

Bow-tie Critical Risk Management

The Bow-tie diagram is a barrier analysis technique developed in the oil and gas industry but increasingly used in many critical risk settings. It allows detailed analysis and communication of defences-in-depth requirements for critical risks.

FOR MORE INFORMATION CONTACT US TODAY.

E: contactus@impac.co.nz

P: 0800 246 722

W: www.impac.co.nz

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We trust you enjoyed your training with +IMPAC, New Zealand's leading full service Health + Safety solutions provider.

Health + Safety is our life – it's what we do and we do it all:

RISK MANAGER
:RMEXPRESS

Our cloud-based software solutions are designed to provide risk management processes to meet health and safety requirements and keep people safe. Choose between our cost effective, **set-up-and-go solution RM Express** - ideal for small to medium organisations; and **Risk Manager, with its fully customisable range of modules** which can be tailored to the needs of larger organisations.

CONSULTING

We work alongside businesses and organisations to understand their challenges and opportunities. Our hugely experienced consulting team assess, advise, investigate and **deliver relevant and practical solutions**, applying a sensible risk management approach to health and safety.

PREQUAL

Our **pan-industry solution to contractor prequalification** and ongoing management. We cater for both individuals needing contractor prequalification and companies wanting to manage all their contractors in one easy to navigate platform.

VRCOMPETENCY

Our innovative virtual reality programme to quickly and effectively upskill operators of motorised vehicles and machinery in a safe and risk free environment. Our courses accelerate training times, improve and certify skills and offer continuous learning.

TALENTBANK

With our unrivalled industry experience and wide network of talent, our **specialist recruitment service** helps to connect the right H+S people to an organisation's contract or permanent roles. We fully understand our clients' resourcing needs and know the best way to help H+S professionals build a better career.

SAFEWORX

We supply a comprehensive range of quality standards appraised **workwear, personal protection and safety equipment**, online and at retail branches nationwide. Our expert team partner closely with customers to develop innovative safety products to address gaps in high risk industries.

+ **To discuss any of IMPAC's H+S services** contact **0800 246 722**

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