WORKSAFE
Mahi Haumaru Aotearoa

Adventure Activities - Managing the risks from natural hazards

Guidance for Adventure Activity Operators

Consultation draft
June 2024

When reviewing this draft guidance please note the following:

- This draft does not necessarily present WorkSafe's final position on any matters contained within it.
- Please use the submission feedback form provided on WorkSafe's Consultation webpage to provide your feedback

Submissions close 5pm Friday 19 July 2024

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These guidelines provide advice on how to manage risks from natural hazards that participants and workers may be exposed to during an adventure activity

ACKNOWLEDGEMENTS

WorkSafe would like to acknowledge and thank the stakeholders who have contributed to the development of this guidance.

Key points

- **Operators of adventure activities have various duties under health and safety legislation.**

- **Operators, as persons conducting a business or undertaking (PCBUs), have duties to ensure the health and safety of workers and other people when carrying out work, and to manage related risks.**

- **Operators must also manage serious risks to participants' health and safety that adventure activities deliberately expose participants to.**

- **As part of these obligations, operators must assess and manage risks from natural hazards.**

NOTE

These guidelines use 'must' and 'should' to show whether an action is required by law or is a recommended practice or approach.

Term	**Definition**
Must	Legal requirement that has to be complied with. This may include requirements of published safety audit standards.
Should	Recommended practice or approach.

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1.0 About these guidelines

Natural hazards can put a person's health and safety at risk of serious harm. These guidelines provide advice for adventure activity operators on how to manage these risks.

1.1 Who are these guidelines for?

These guidelines are for all PCBUs that are registered, required to be registered, or applying to be registered as an adventure activity operator with WorkSafe (as Registrar) before providing an adventure activity.

They will also be helpful for other PCBUs who do not have to be registered as an adventure activity operator, who may have duties under HSWA and operate similar activities in areas where there may be natural hazards. This includes sports clubs, recreation clubs, schools, tertiary education providers and volunteer organisations.

Figure 1 shows examples of regulated adventure activities.

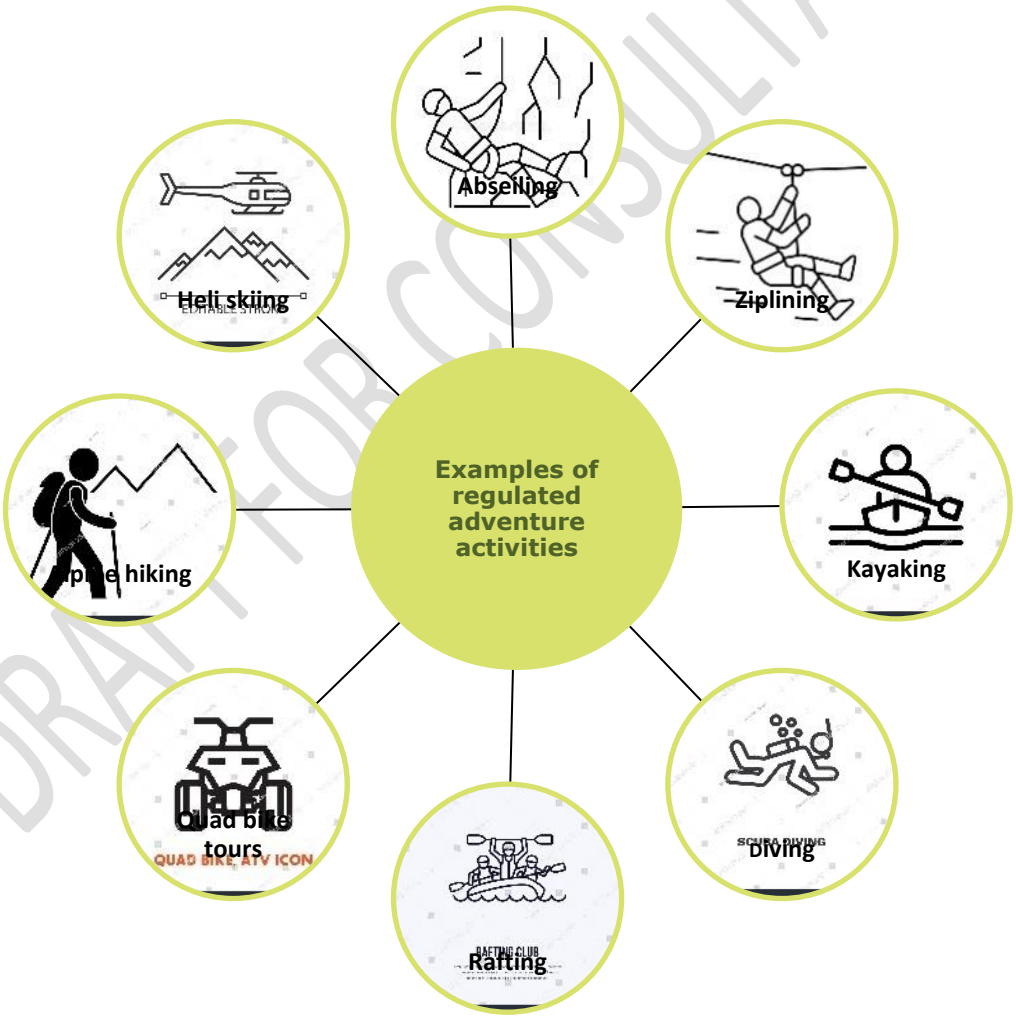


Figure 1: Examples of regulated adventure activities

1.2 What is an adventure activity?

An adventure activity is a recreational or educational experience provided to a participant on land or water, in return for payment. They involve the participant being guided, taught how, or assisted to participate in the activity which is designed to deliberately expose participants to a serious risk to their health and safety.

More information about adventure activities is available on the WorkSafe webpage: What we mean by adventure activity | WorkSafe

1.3 What are these guidelines about?

Operators have various duties and obligations to manage health and safety risks. This includes an obligation to manage the serious risks a participant in an adventure activity is deliberately exposed to.

These guidelines focus on natural hazards that put participants in adventure activities, and workers involved in those activities, at the greatest risk of serious injury or death. They provide:

- an overview of what a natural hazard is
- good practice advice on how to manage natural hazard risks that form part of the adventure activity and are serious risks that the activity is designed to deliberately expose participants to
- good practice advice on how to manage natural hazard risks that are not part of the serious risks that the activity is designed to deliberately expose participants to but could happen during the course of the adventure activity.

These guidelines will help you understand your duties under:

- the Health and Safety at Work Act 2015 (HSWA)
- the Health and Safety at Work (Adventure Activities) Regulations 2016 (Adventure Activities Regulations)
- the Health and Safety at Work (General Risk and Workplace Management) Regulations 2016 (GRWM Regulations).

For more information about these various duties see Appendix 2 to 5.

The guidelines will also help registered adventure activity operators comply with requirements of the *Safety management system requirements for adventure activity operators* (Safety Audit Standard).

The Safety Audit Standard outlines the requirements a PCBU must comply with to pass a safety audit and become registered as an operator. The standard also includes requirements for risk and hazard management.

You can find the Safety Audit Standard on the WorkSafe webpage: Documents and resources

Key terms used in these guidelines

Natural hazard is anything that occurs in the atmosphere, or on land or water that adversely affects a location where an adventure activity is provided, such as a landslip, flooding or avalanche.

See section 12.0: *Glossary* for a full definition

Technical adviser is a person or group of people that can help you with various technical tasks, to identify hazards and assess the risks from them. They may be contracted by, or closely connected to the operator and may be workers.

The person or group should have either:

- a high-level qualification, or
- extensive knowledge, skills and experience.

These must be relevant to the type of activity or natural hazards they are providing advice on.

See Appendix 1: *Technical advisers* for more information

Technical task includes doing reviews and providing advice on your policies, procedures and practices relating to the adventure activity you operate or providing advice about natural hazards.

2.0 Risks from natural hazards

Natural hazards can cause serious injury or death, so it is important you have a good process to manage the risks

A risk from a natural hazard can form part of the adventure activity and be a serious risk that participants in the activity are deliberately exposed to. For example, white water rafting done on a high flow river after heavy rainfall.

A risk from a natural hazard can also happen during the course of the adventure activity and not be part of the serious risks participants in the activity are deliberately exposed to. For example, white water rafting done in gorges that may have a risk of a landslip.

Regardless of the nature of the risk from natural hazards, the risk must be managed.

You may have one or more duties or obligations under HSWA, GRWM Regulations and the Safety Audit Standard to manage risks, including serious risks. You will need to understand what applies to your adventure activity.

See Section 5.0: *Manage the risks of identified natural hazards* for more information about how you are required to manage risks under the different duties and obligations you may have.

2.1 Process to manage risks from natural hazards

Risk management is not a one size fits all approach. You must manage the risks from natural hazards in accordance with the duties and obligations that apply to you.

You must identify natural hazards your participants, workers and others may be exposed to that could give rise to reasonably foreseeable risks to their health and safety. You must assess and manage those risks.

You must decide whether the risk from a natural hazard can be eliminated. If the risk cannot be eliminated you need to decide what control measures are reasonably practicable for your operation and the risks that arise from natural hazards you have identified.

You must also assess and manage any remaining risk, and regularly review your control measures.

Using a risk management process like the one in Figure 2 will help you identify and manage the risks from natural hazards.

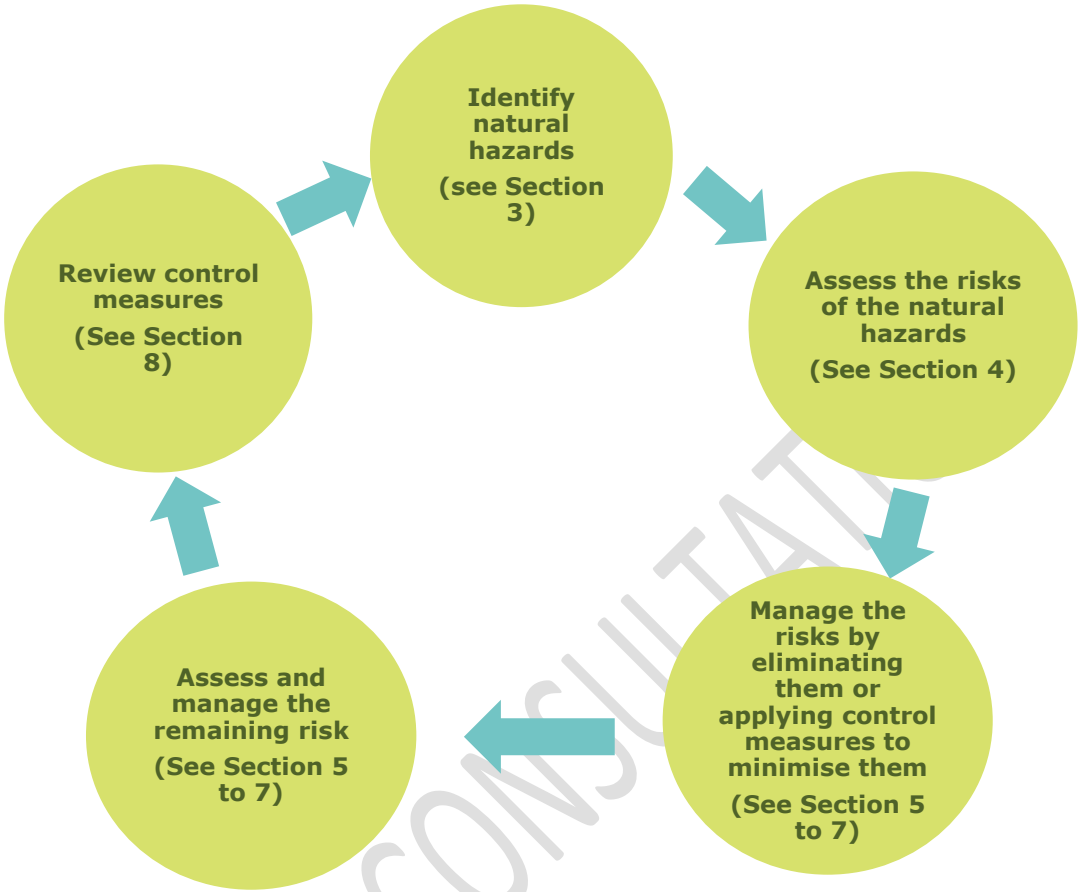


Figure 2: Risk management approach

See section 4.0: *Risk and hazard management* of the Safety Audit Standard for more information about the risk management process.

2.2 Working together with other PCBUs to manage risk

Sometimes more than one PCBU will have the same health and safety duties for an adventure activity. These PCBUs have overlapping duties – this means that the duties are shared between them.

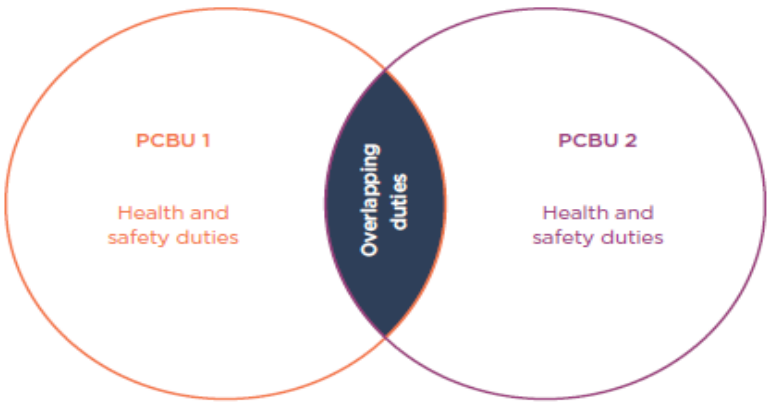


Figure 3: Overlapping duties

Below are examples of instances where there may be overlapping duties:

- Where an adventure activity is provided on land owned by someone else, the landowner or land manager has a duty to tell operators about all hazards. This includes natural hazards on their land that could be a risk to health and safety. A landowner or land manager may also be required to take additional steps to manage the risks in respect of a natural hazard.
- When part of the adventure activity is provided by another PCBU such as travel to and from the activity site.
- Where two or more adventure activities are provided by different PCBUs as a package.

PCBUs who have overlapping duties must work together by consulting, cooperating and coordinating with each other to identify and manage health and safety risks.

A PCBU cannot transfer or contract out of their duties or pass liability to another person.

A PCBU can make an agreement with another PCBU to fulfil specific duties. Even if this happens, all PCBUs are still responsible for meeting their legal duties.

Example

Hills Adventures uses the transport services of Hills Shuttles for workers and participants of their alpine hikes to get to and from the activity site.

Both Hills Adventures and Hills Shuttles have a duty, so far as is reasonably practicable, to make sure the health and safety of the workers and participants is not put at risk. This includes the duty to provide first aid facilities.

Hills Adventures make an agreement with Hills Shuttles that if their workers or participants need first aid while being transported they can use Hills Shuttles first aid facilities.

For more information, see WorkSafe's guidance: Overlapping duties and Information for land owners and land managers when adventure activities are being provided on their land | WorkSafe

See Appendix 2: *The Health and Safety at Work Act 2015 duties* for information about your duties under HSWA.

3.0 Identify natural hazards

Assessing the area your adventure activity operates in will help you identify natural hazards.

With your workers and a technical adviser, you must identify all natural hazards that are present or could happen in your operating area, such as a landslip or avalanche.

You should consider if the risk forms part of the adventure activity and is part of the serious risks a participant is deliberately exposed to, or if the risk could happen during the course of the adventure activity and is not part of the serious risks a participant is deliberately exposed to.

Workers may also be exposed to the same risk from natural hazards. Understanding the nature of the risk will help you manage it.

If a natural hazard has not happened in your operating area before it does not mean one is not possible.

3.1 Know your operating area

Having knowledge about the area you operate in can help you identify natural hazards. For example, having knowledge of natural hazards that have happened in the past can help you identify natural hazards that may happen in the future.

If you operate on land that is privately owned make sure you ask the land owner or land manager, and use any readily available information to find out about natural hazards that could affect activities on their land and about natural hazards that have happened in the area before.

For more information about the duties of land owners and land managers, see WorkSafe's guidance: Information for land owners and land managers when adventure activities are being provided on their land

3.2 Know what to look for

You also need to know what things to look for that may be a sign that a natural hazard could happen or could contribute to one happening. For example, a cliff with signs of weakness increases the likelihood of a landslip, and a mountain with recent heavy snow on avalanche terrain increases the likelihood of an avalanche.

3.3 Check your operating area regularly

If you operate in the same area for every activity, it is important you regularly assess if a natural hazard could affect your operation as natural hazards can change over time and can be unpredictable. What is regular will depend on your adventure activity, the natural hazards you have identified and the level of risk from them. If you are unsure how often you need to do an assessment, ask your technical adviser.

See Appendix 1: *Technical advisers* for information about who is a technical adviser and when you must use one.

> Remember: When identifying natural hazards, you need to think about the whole duration of the activity. From planning, set up and travelling to the activity site, to carrying out the activity and completion of it including travel back to any base site.

3.4 Check your incident and injury records

If you have incident and injury records, including near misses, you should review these to see if any involved natural hazards. If you still operate in the area they happened in, include them as an identified hazard.

If you are a new operator and do not have incident and injury records, ask other operators if the area you operate in has natural hazards that have caused an incident or injury in their operation. Also ask your technical adviser and check your available resources.

3.5 Resources to help identify natural hazards

You can use resources such as GNS Science and local council data for information about weather forecasts, local warnings, current conditions of an area and data on historic patterns to help you understand, identify and assess the risks from natural hazards in your operating area.

They can also help you manage changing risks as new data and knowledge becomes available.

Figure 4 shows examples of resources you can use to help identify natural hazards in your operating area.

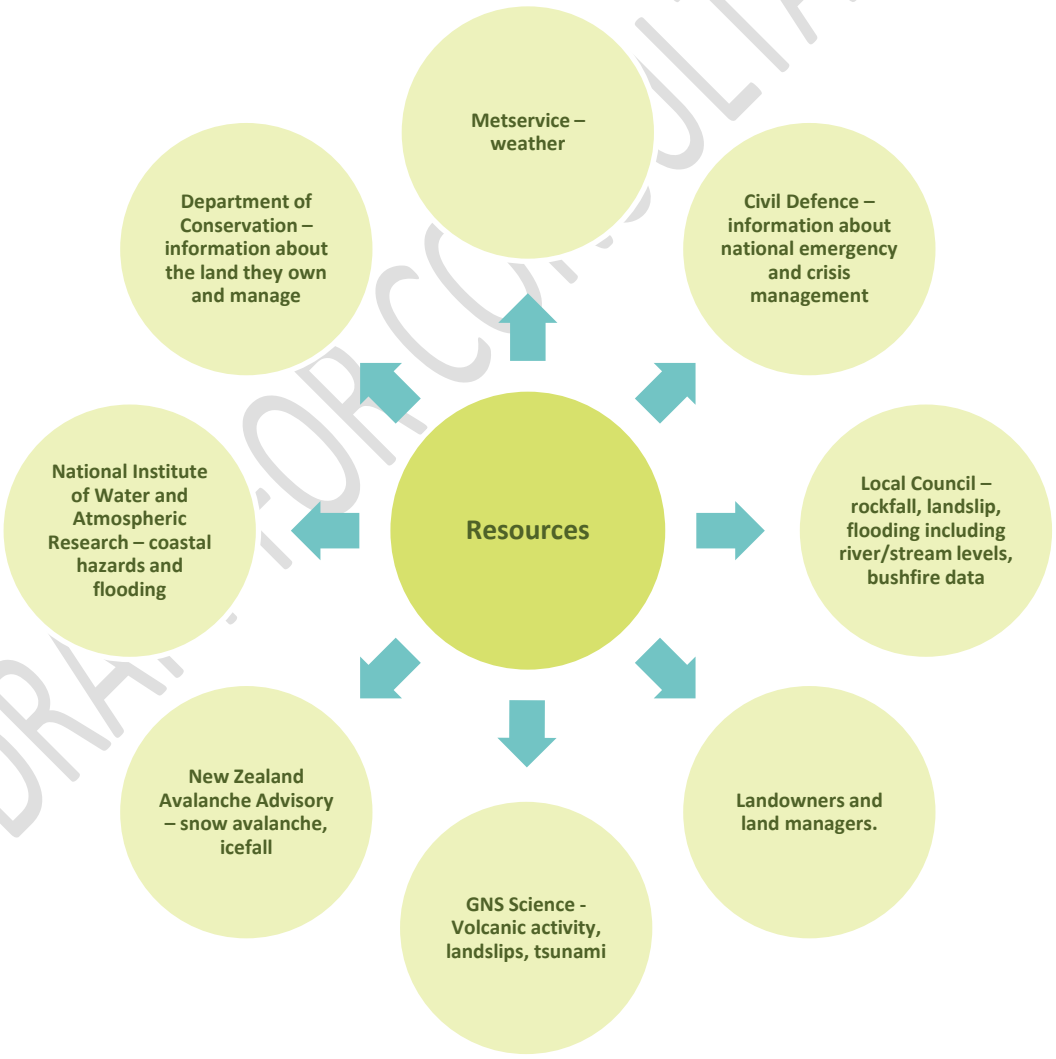


Figure 4: Examples of resources to help identify natural hazards

3.6 Natural hazards that may be in your operating area

The table below provides some examples of:

- environments adventure activities may operate in
- natural hazards that can happen in those environments, and
- things to look for that may be a sign that a natural hazard could happen or could contribute to it happening.

Environment	Natural Hazard	Things to look for
Any outdoor environment. Note: A storm is a natural hazard that can affect any adventure activity. It can also impact and cause other natural hazards to happen such as landslips and flooding.	 Storm - High winds, extreme hot and cold weather, lightning strikes, heavy rainfall, hailstorm, thunderstorm.	– heavy rain forecast in area adversely affected by flooding in the past – heavy rain forecast in area that may cause your operating area to be adversely affected (for example, upper catchment areas of rivers) – electrical storm forecast in area previously adversely affected by an electrical storm – high winds forecast in area previously adversely affected by a tornado – current condition of area means forecast weather will adversely affect it.
An active volcano such as: – Whakaari/White Island – Mt. Ruapehu – Mt. Ngauruhoe – Mt. Tongariro – Raoul Island.	 Volcanic activity - Steam, magma, lava, ashfall activity from active vents on a volcano.	– increase of the ground temperature – increase in tremors or earthquakes – swelling of the ground surface – changes in heat flow – increase in gases – changes to hot springs.
On or near a: – slope – hillside – cliff – mountain.	 Landslip - A moving mass of debris, loose mud, sand, soil, rock, water and air that travels down a slope under the influence of gravity.	– small slips or mudflow – signs of unstable debris, vegetation and rocks – noticeable ground movement – saturated ground after rainfall – sounds of debris, vegetation and rocks moving.

Avalanche terrain on or near a snow covered: – slope – hillside – cliff – mountain.	 Snow avalanche - Mass of snow, ice and rocks falling down a mountainside.	– loose snow on steep terrain – ice above steep terrain – rapid increase in temperature due to air, sun or rain – changes in wind speed and direction.
On or near: – a slope – hillside – cliff – mountain. In a: – cave – canyon.	 Rockfall - A sudden downward fall or collapse of rock material.	– signs of loose rock – recent ground movement – recent heavy rainfall – recent extreme low temperatures.
Under, on or near a: – glacier. On or near an ice covered: – slope – hillside – cliff – mountain.	 Icefall - Falling blocks of ice from glaciers or other ice-covered areas.	– sustained temperatures above freezing – rapidly warming temperatures – signs of melt – signs of recent ice fall / collapse.
In, on or near a: – river – stream – dry watercourse – gorge. In a: – cave – canyon. Below a snow or ice covered:	 Flooding - River and surface flooding due to rainfall including upstream rainfall or ice/snow melt and flooding of enclosed/contained spaces.	– fallen debris, vegetation or rocks into river catchments – changing water levels – heavy rain forecast in an area that may cause your operating area to be adversely affected (for example, upper catchment areas of rivers) – snow or ice melt into river or stream – daily tidal changes – heavy rainfall.

– slope – hillside – cliff – mountain.		
In, on or near an: – ocean – lake – any area within a tsunami zone.	 Water surge - Tidal surge, rogue waves and tsunami, including tsunami and seiche on lakes or underground waters.	– increase in wind speed – drop in atmospheric pressure – tidal swells – recent earthquake causing tsunami risk.
In or near a: – grass plane – forest – bush.	 Wildfire - Unplanned, unwanted fire burning in a natural area, such as a forest or grassland.	– drought conditions such as dry grass and vegetation – prolonged increase in temperature.

Table 1: Things to look for when identifying natural hazards in your operating area

4.0 Assess the risks of identified natural hazards

Assessing risks together with your workers and technical adviser can help you choose the best control measures.

After identifying what natural hazards are present or could happen in your operating area, with your workers and technical adviser, you must assess the risks of each of them.

Risks to health and safety arise from people being exposed to hazards - that is, anything that can cause harm. Risk has two components – the likelihood that it will happen and the consequences (degree of harm) if it happens. Figure 5 shows this.

Figure 5: Components of risk

You need to determine the level of risk by assessing the combination of:

- the likelihood that a person will be exposed to an identified natural hazard, and
- the amount of harm that could happen (consequences) if a person was exposed to an identified natural hazard.

Figure 6 shows factors that may affect the level of risk in an adventure activity operation.

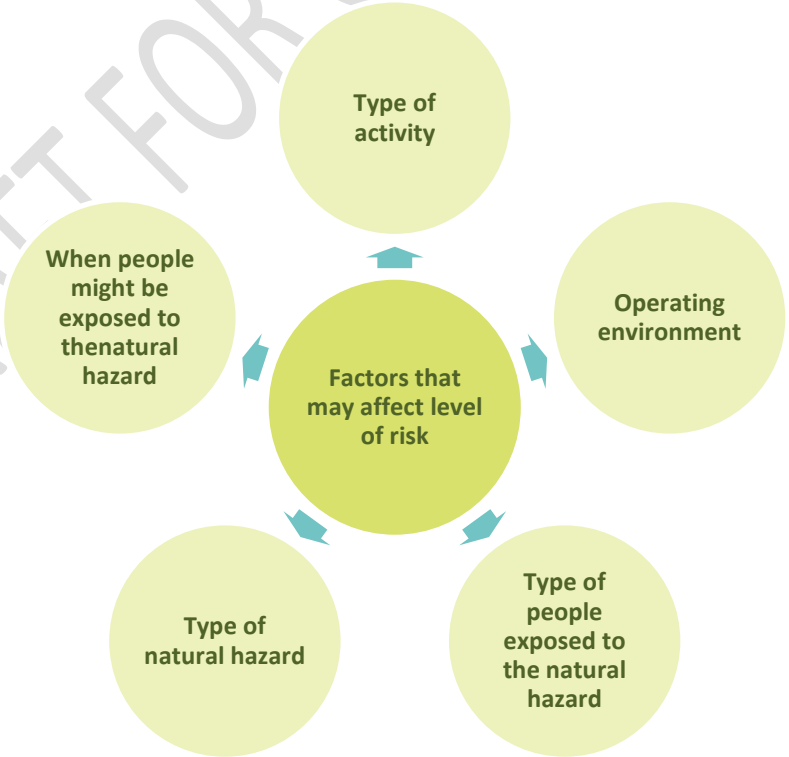


Figure 6: Examples of factors that may affect level of risk

A technical adviser should be able to provide advice specific to your adventure activity and the natural hazards in your operating area.

See Appendix 1: *Technical advisers* for information about who is a technical adviser and when you must use one.

Remember: You should assess the risks of natural hazards regularly. Natural hazards can change over time due to natural changes or because new scientific data and knowledge becomes available.

What is regular will depend on your adventure activity, the natural hazards you have identified and the level of risk from them. If you are unsure how often you need to do an assessment, ask your technical adviser.

Check that any previous risk assessment is relevant and that no new natural hazards have been identified.

4.1 What is the likelihood of a participant or worker being exposed to a natural hazard?

The likelihood of being exposed to a natural hazard can be uncertain. This is because natural hazards can be unpredictable, and many factors can contribute to the likelihood.

Understanding whether the natural hazard forms part of the serious risks participants are deliberately exposed to or not may help you determine the likelihood of it happening.

To help you assess the likelihood, look at factors such as the time of year, the weather, the climate and the condition of the area you operate in, and check resources, such as information from land owners and GNS Science.

Natural hazards can change over time so it is important you understand the area you operate in. Getting advice from a suitable technical adviser may help you assess the likelihood of being exposed to an identified natural hazard and assess the risks from them.

4.2 What harm could happen if a participant or worker is exposed to a natural hazard?

Participants and workers exposed to a natural hazard are likely to be at risk of serious harm to their health and safety. They could suffer a serious injury and in the worst case, death.

An activity with multiple participants has a higher risk of many people being seriously harmed.

Depending on the nature of the natural hazard, participants may be at greater risk of serious harm as they may not have the knowledge, skills and expertise to respond to the hazard as workers do.

4.3 Things to think about when assessing the risks of natural hazards

The table below provides some examples of things you should think about when assessing the risks of each natural hazard you have identified.

Question	Things to think about

When is the natural hazard present or when could a natural hazard happen?	– Is it:
	  o all the time or always in the background
	  o some of the time
	  o often but hard to predict
	  o very rarely but at predictable times, or
	  o after certain events such as heavy rainfall (for example, certain soil becoming unstable when saturated).
	– Is there updated information available about the area that shows a risk of a natural hazard happening?
	– What does the latest information from resources such as local Councils and GNS, mean for your operating area?
	– What is the previous history of a natural hazard happening in your operating area?

What factors could influence when the natural hazard will be present or when a natural hazard will happen?	– Are there certain times of the day/week/year that a natural hazard is more likely to happen? – Are there likely to be seasonal variations to the level of risk? – Are there certain activities or tasks that have increased exposure to the natural hazard? – Are there areas where a natural hazard is more likely to happen? – Does the recent, current, or forecasted weather influence when the natural hazard may happen? – Are there areas that would be more severely affected, or more vulnerable to a certain natural hazard? – Does the current condition of the area influence when the natural hazard may happen?
Who might be exposed to the natural hazard?	– participants

	– workers involved in the adventure activity – other people in the area of the adventure activity/work being carried out – other PCBUs of adventure activity operations in the area.
Do you have any vulnerable workers or participants who are at greater risk of serious harm?	– people with different levels of fitness, ability and skill – young people or children – elderly people – people with language barriers.
What type of harm could happen?	– injury, including serious injury – death.
How serious could a resulting injury be?	– injury that can be treated with first aid at the scene – injury that may require emergency services (possibly to an isolated area) – injury that is likely to cause permanent disability or death (even with emergency services response).
Do you have enough workers during the activity to assess new risks?	– Are workers trained on how to identify and assess natural hazards? – Are workers trained on how to make decisions on managing risks from natural hazards if they happen during an activity? – Do workers have access to alert systems while on the activity, such as weather and fire hazard alerts? – Is there a backup plan to identify and manage risks from natural hazards if the responsible worker on an activity is incapacitated?

Table 2: Things to think about when assessing the risks of natural hazards

You might identify that your activity or the area you operate in is at risk of more than one natural hazard happening. As well as assessing the risks of each natural hazard you also need to think about how they might interact with each other and whether this creates an increased risk to the health and safety of your participants, workers and others.

Example

Hills Adventures identified participants and workers could be exposed to several natural hazards during their hike.

As natural hazards can be unpredictable and may be affected by changes in the weather, Hills Adventure need to identify which ones they will be exposed to and assess the risks from them before and during the hike.

They need to think about how each natural hazard interacts and whether this will cause further serious risk such as significant sudden rainfall increasing the likelihood of rockfall or avalanche. This would increase the risk of injury to participants or workers.

5.0 Manage the risks of identified natural hazards

While it may not be possible to eliminate all risks of a natural hazard, there are steps that can be taken to minimise workers and participants exposure to them.

After assessing the risks, with your workers and technical adviser, decide which ones to deal with immediately. For example, you may prioritise dealing with:

- serious risks a participant is deliberately exposed to
- risks with potentially significant consequences such as serious injury or death
- risks with a high likelihood of happening.

Consider and decide what control measures to put in place to manage the serious risks from natural hazards.

Make sure your workers know what the control measures are and how to apply them.

To help workers decide how to eliminate or minimise serious risks from natural hazards both before and during an activity you should have clear decision criteria about when to use each control measure.

See section 7.0: *Trigger points to apply control measures* for more information about when to apply control measures.

5.1 Duties and obligations to manage risk of natural hazards

You may have one or more duties or obligations under HSWA, GRWM Regulations and the Safety Audit Standard when managing risks.

You will need to understand what applies to your adventure activity to manage risks, including serious risks.

In all cases you must eliminate a risk to health and safety, so far as is reasonably practicable.

5.2 Duty to manage all risks under HSWA

All PCBUs have duties under HSWA to manage health and safety risks to workers and others, including participants. Risks include those associated with exposure to natural hazards.

As a PCBU you must, so far as is reasonably practicable, make sure the health and safety of your workers and others is not put at risk from the work you do.

You must manage *all risks*, including serious risks, to health and safety by eliminating them, so far as is reasonably practicable. If it is not reasonably practicable to eliminate a risk you must minimise it, so far as is reasonably practicable.

5.3 Duty to manage particular risks under GRWM Regulations

The GRWM Regulations create specific requirements for PCBUs to manage *particular risks*. Particular risks are certain health and safety risks or work environments.

PCBUs that are required to manage particular risks, have a duty under the GRWM Regulations to minimise the risks by using the hierarchy of control measures in those regulations, when elimination is not reasonably practicable.

The hierarchy of controls shown in Figure 7 must be used to manage all risks associated with the particular risk. This includes any risk from natural hazards a worker may be exposed to (for example, while carrying out remote or isolated work). In minimising risks you must also provide the worker with a system of work that includes effective communication with the worker.

See Appendix 5: *The Health and Safety at Work (General Risk and Workplace Management) Regulations 2016 duties* for information about your duties under the GRWM Regulations.

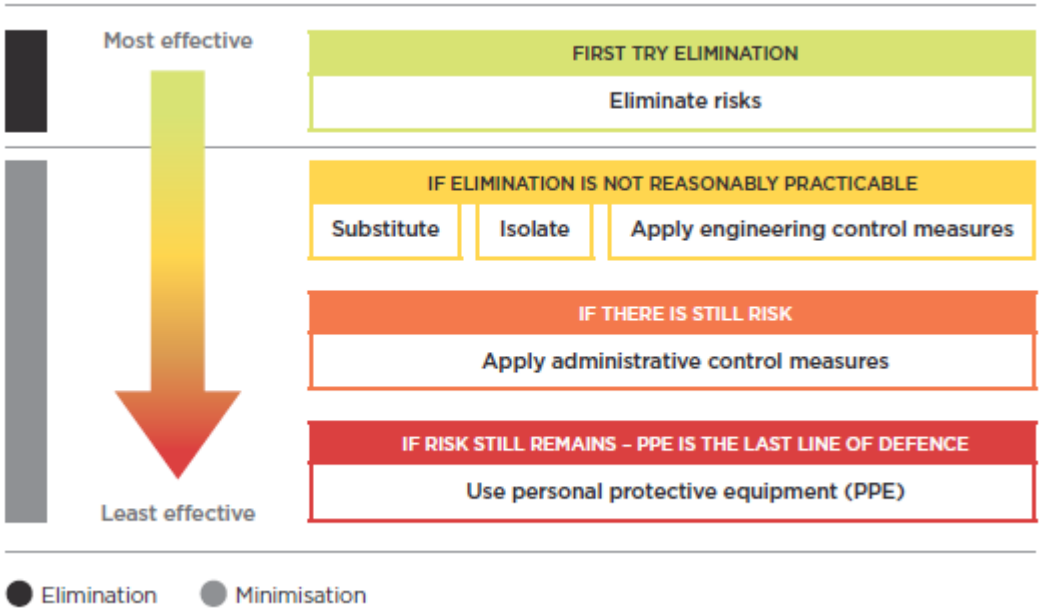


Figure 7:Hierarchy of controls

Even if you are not required to use the hierarchy of controls set out in the GRWM Regulations, you may be required to apply a hierarchy of controls as set out in the Safety Audit Standard.

5.4 Obligation to manage serious risks under the Safety Audit Standard

The Safety Audit Standard requires an adventure activity operator to eliminate *serious risks*, including those from natural hazards, so far as is reasonably practicable.

See section 4.0: *Risk and hazard management* of the Safety Audit Standard.

Serious risk that that the adventure activity is not designed to deliberately expose participants to

Serious risks to the health and safety of participants that are not part of the design of the adventure activity - that is, serious risks that are unnecessary, must be eliminated so far as reasonably practicable.

Where it is not reasonably practicable to eliminate these serious risks, the Safety Audit Standard requires operators to minimise them using a process similar to the hierarchy of controls.

An **unnecessary** natural hazard risk is one that the adventure activity is not designed to deliberately expose a participant to (for example, wildfire, or flooding in enclosed spaces).

Serious risk that the adventure activity is designed to deliberately expose participants to

Where serious risks to the health and safety of participants are part of the design of the adventure activity and cannot be eliminated, the Safety Audit Standard requires operators to minimise them using a process similar to the hierarchy of controls.

The following section provides an overview of how you are required to manage serious risks from natural hazards under the Safety Audit Standard.

The term "serious risks" has a specific meaning in the Safety Audit Standard and means a chance of a notifiable event.

See section 10.0: *Notifying WorkSafe of certain events* for more information about notifiable events.

5.5 How to manage serious risks from natural hazards under the Safety Audit Standard

Once you have identified natural hazards that give rise to reasonably foreseeable risks to health and safety, you need to decide whether the risk can be eliminated. If the risk cannot be eliminated you need to decide what control measures should be used to manage those risks.

Elimination

You must **eliminate** serious risks if it is reasonably practicable to do so.

Examples of ways you can eliminate serious risks from natural hazard include:

- cancelling the activity
- moving the activity to a safer location
- taking a different route.

Minimisation

If it is not reasonably practicable to eliminate a serious risk, you must **minimise** it so far as is reasonably practicable by using one or more of the following control measures:

- substituting the hazard with something involving less risk
- isolating the hazard from people
- implementing engineering controls.

Examples of control measures you can put in place to minimise serious risks from natural hazards include:

- limiting time spent in an area where there is or could be a natural hazard
- not accessing an area that is or could be impacted by the natural hazard
- changing the activity type
- postponing the activity to a time or day when there is less risk.

See Appendix 3: *So far as is reasonably practicable (section 22 of HSWA)* for information about what is reasonably practicable.

Assess and manage remaining risk

After you have put control measures in place to minimise serious risks, you need to assess if there is remaining risk.

If a remaining risk is at a level that can be managed with one or more administrative controls or personal protective equipment (PPE) then you must use the most appropriate of these control measures to **minimise** the remaining risk.

You need to check if the remaining risk is at an acceptable level considering:

- the original risk participants agreed to
- who may be affected by the risk
- what harm the risk can cause, and
- what controls you can put in place to manage those risks to keep it at an acceptable level.

You should cancel the activity if you cannot manage a remaining risk so it is at an acceptable level, that ensures the health and safety of workers and participants..

Examples of control measures you can put in place to manage the remaining risks from natural hazards include:

Administrative controls, such as:

- having good standard operating procedures in place
- putting emergency plans in place
- having clear trigger points in place for managing risk dynamically
- creating exclusion zones.

PPE that are most appropriate for the risk, such as:

- life jackets for water-based activities
- helmets for activities at risk of rockfall
- walking aids for hiking activities (for example, crampons, ice axe)
- clothing appropriate for changes in temperature.

Even if you are not required to use the hierarchy of controls as set out in the Safety Audit Standard, it is a good model to use for managing all risks.

If the serious risk from a natural hazard relates to a particular risk such as risk from remote or isolated work, you must use the hierarchy of controls under the GRWM regulations.

See section 5.3: *Duty to manage particular risks under GRWM Regulations* of these guidelines.

The management of remaining risk under the hierarchy of controls in the GRWM Regulations are different to the requirements for minimising serious risks under the Safety Audit Standard.

Remaining risk must be managed by implementing administrative controls first. If risk remains, you must provide and make sure PPE is used.

Example

Hills Adventures is taking a group up the mountain. They have checked all available resources to assess if the tour group will be exposed to any natural hazards. They also have reports from a technical adviser who is an expert on mountain natural hazards.

It is Autumn so there is not a lot of snow coverage and no recent snowfall or forecasted snowfall. The fire danger is low. In the last 3 weeks there has been a lot of heavy rain in the area.

With all this information, Hills Adventures determines there is a high likelihood that their usual route has a risk of a landslip. No other natural hazard risk has been identified.

They assessed there is a serious risk to the health and safety of participants and workers if there was a landslip. They eliminate the risk by changing the hike to a different route where there is no risk of a landslip.

Workers and participants are told of the landslip risk and that they will take a different route. Hills Adventure confirm that the participants still want to go ahead with the hike.

6.0 Dynamic risk management

Having workers who can assess and manage risks while on the adventure activity is an important part of the risk management process and will help make sure the activity is as safe as possible

Dynamic risk management is done during an adventure activity by regularly observing and assessing high-risk or changing environments. Workers need to quickly identify hazards, assess the risks and remove them so the adventure activity can continue safely.

Factors such as erosion, climate change and weather events can change a natural hazard or increase the likelihood of a natural hazard happening.

Before and during an activity, you should check your operating area and resources to assess if an identified natural hazard has changed, and to identify new natural hazards that could increase the risk of serious harm to the health and safety of participants and workers.

To determine if there are changes to the environment you operate in or if new information available changes previously assessed risk ask yourself:

- Has a previously identified natural hazard changed?
- Is there a new natural hazard?
- Does a change to the environment mean a natural hazard may happen in your operating area?
- Does new data or knowledge mean a natural hazard may happen in your operating area?

If you are unable to answer these questions, contact a suitable technical adviser to help you.

See Appendix 1: *Technical Advisers* for information about who is a technical adviser and when you must use one.

Example: A previously identified natural hazard changing over time
An abseiling cliff on a coastline was previously identified as having risk of erosion but is safe enough to abseil on. It needs to be monitored regularly to make sure the cliff continues to be safe. A new risk assessment should be made if there are changes.

Example: A change in likelihood of natural hazard happening
A previous assessment of a cliff did not identify a landslip as a natural hazard that could happen but after a storm with heavy rainfall the cliff has become unstable and the likelihood of a landslip happening has increased and is identified as a natural hazard. A risk assessment must be made.

6.1 Assess and manage risk during an activity

Workers must have the skills and situational awareness to constantly assess their surroundings for:

- changes to previously identified natural hazards
- new natural hazards
- signs that a natural hazard may happen.

Workers must assess if anything identified significantly increases the risk of serious harm to the health and safety of participants and workers. Workers must consider whether the increased risk is acceptable.

If a worker cannot keep the risk level to an acceptable safe level they should know when to stop the activity or what action to take to reduce the time participants and workers are exposed to the risk. For example, moving through an area quickly to get away from the risk or stopping the activity.

You should have a safety plan that can be put in to action including having clear 'trigger points'.

See Section 7.0: *Trigger points to apply control measures* for more information about trigger points.

Depending on whether the activity has started, stopping an activity could mean:

- **eliminating** the risk. For example, not starting the activity where the activity has not yet started, or
- **minimising** the risk. For example, camping until the risk reduces, or changing the route or activity where the activity has already started.

Dynamic risk management is not meant to allow a greater level of risk to be accepted than the original level of risk.

Actions taken and new accepted risk from dynamic risk management must not:

- remove or reduce the effectiveness of control measures
- increase the level of risk previously identified
- increase the level of risk that participants were informed of and agreed to.

Example

Hills Adventures eliminated the risk of landslip by changing the hike to a new route where there is no risk of a landslip.

The weather forecast is favourable for the hike so this was not considered a serious risk. However workers know they must continually monitor weather conditions during the hike and are prepared to act if changes in the weather increase the risk of serious harm to the health or safety of participants and workers.

They are also constantly aware of their surroundings and looking out for changes to previously assessed natural hazard risks.

They also regularly check other resources such as fire danger reports and avalanche risk reports in seasons where these risks are increased.

7.0 Trigger points to apply control measures

Having trigger points will help workers decide what action to take when there is a risk from a natural hazard

7.1 What is a trigger point?

A trigger point is a pre-determined response to something that could happen. Having them will help you manage risks from natural hazards because they give workers clear direction about what control measures to use when one is identified as a risk.

Trigger points and responses should be clearly defined in your risk management plan.

Workers must be trained so they know what the trigger points are and what to do if a trigger point is reached before or during the adventure activity.

7.2 How to decide what your trigger points are

Using the approach to risk management in Section 2.1: *Process to manage risks from natural hazards*, you would have identified natural hazards that are present or could happen in your operating area and assessed the risks from them.

Thinking about the nature of your adventure activity, including the serious risks participants are deliberately exposed to, and the area you operate in will help you and your workers decide what trigger points and responses to have.

Decide when you would need to use control measures to eliminate or minimise the risks from each natural hazard you have identified.

A trigger point may be based on:

- deliberate exposure to risk
- a quantifiable or forecasted measure of weather or environmental conditions happening (for example, wind speed, wind direction, rainfall, temperature, or river level)
- a specific or forecasted event happening (for example, lightning, or strong winds)
- an index or rating reaching, or forecasted to reach, a specified level (for example, fire danger rating).

Weather-related trigger points can be based on forecast or actual conditions. Consideration should be given to the possibility that actual conditions can be better or worse than forecast.

7.3 Trigger points of other PCBUs

If you have overlapping duties with other PCBUs such as land owners or managers, or other adventure activity operators, check if they have their own trigger points set for the operating area and make sure these are put in your plan.

Having the same trigger points as other PCBUs will make sure your responses are co-ordinated and information to workers and participants is consistent with information provided by other PCBUs. For example, Department of Conservation have trigger points as part of their process to close Tongariro National Park in the event of volcanic activity.

7.4 Examples of trigger points

The following table provides examples of trigger points for natural hazards.

Note: The measurements used to describe trigger points in this table are examples only and do not represent actual trigger points for a particular adventure activity operation or environment.

You must decide what trigger points are reasonably practicable for your operation. If you are unsure about what trigger points to use talk to your technical adviser.

Natural hazard	**Example of trigger point and response**
Volcanic activity	Before the activity: – if the alert level is at 2 or more the activity will be cancelled or postponed. During the activity: – if the alert level changes from 1 to 2 the activity will stop and the area must be evacuated.
Landslip	Before the activity: – if an area prone to landslips has had significant rain that may increase the likelihood of a landslip the activity will be postponed. It will only go ahead once the area is checked by a suitable technical adviser. During the activity: – if there is heavy rain in an area prone to landslips the activity will be stopped and the highest risk landslip areas must be avoided.
Avalanche	Before the activity: – if the avalanche danger scale is at 4 or 5 the activity will be cancelled or a different route will be taken. During the activity: – if the avalanche danger scale is at 3 extra precaution will be taken to observe the conditions of the area and if the risk significantly increases the area will be evacuated and a safer route taken.
Rockfall	Before the activity: – if there is increased rainfall or evidence of increasing rockfall the activity will be cancelled or postponed. A risk assessment will be completed when it is safe to do so. This may involve engaging a suitable technical adviser. During the activity: – if there is evidence of recent increased rockfall, such as visible signs of more debris or larger sized rocks or sounds

	of rockfall the activity will be stopped. Highest risk areas must be avoided, and a risk assessment will be completed when it is safe to do so. This may involve engaging a suitable technical adviser.
Flooding	Before the activity: – if it is raining heavily and is forecast to persist, caves that are prone to flooding will not be used on the activity. During the activity: – if the cave is prone to flooding and water levels or feeder streams rise to a certain height or water is discoloured the cave will be evacuated and not used until the rainfall and water levels lower to acceptable levels.
Storm – high winds	Before the activity: – if winds of 25 knots or above are forecast on a large lake, changes must be made to the kayaking activity. During the activity: – if winds increase to 25 knots or above, the kayaking activity will be stopped. Workers and participants will be collected by boat if it is unsafe to kayak back to base.
Water surge	Before the activity: – if the forecast is for high winds resulting in unsafe swells the activity will be postponed. During the activity: – if there is an earthquake above magnitude 6 the activity will be stopped and everyone will go to the nearest safe area until there is no risk of tsunami.
Wildfire	Before the activity: – if the fire danger is at 'very high' in a bushfire risk area and your activity could cause a fire, the activity will be cancelled. During the activity: – if a fire starts in or near your operating area the activity will be cancelled and evacuation procedures followed.

Table 3: Examples of trigger points for natural hazards

8.0 Review and improve control measures

With your workers, regularly monitor and review trigger points and control measures to make sure they are effective and suitable

With your workers you must regularly:

- assess the likelihood and consequences of natural hazards to make sure any remaining risk continues to be acceptable, and
- monitor your trigger points and control measures to confirm they are effective, fit-for-purpose, suitable for the nature of the work, and are used correctly.

8.1 When you should review control measures

You should review control measures and trigger points when there is:

- a new natural hazard or risk identified
- new data or knowledge about a previously identified natural hazard or the area you operate in
- a change to the environment you operate in
- a change at the workplace such as the area you operate
- a change to the adventure activity you provide
- a change to key workers
- a request from workers or their health and safety representative for a review
- evidence that control measures may not be working effectively to manage the risk (for example, when you receive a report after an incident investigation).

You should get a technical adviser to help with the review process.

See Appendix 1: *Technical advisers* for information about who is a technical adviser and when you must use one.

8.2 When you should improve control measures

If the review of your control measures or trigger points show they are no longer effective or suitable you will need to reassess the risks. Put new trigger points or control measures in place to manage risks and ensure any remaining risk is acceptable.

See Section 4.0: *Assess the risks of identified natural hazards* and Section 5.0: *Manage the risks of identified natural hazards* for more information.

For more information to help you identify, assess, and manage risks, and review control measures, see WorkSafe's guidance: Identifying, assessing and managing work risks

You must consult with your workers and their representatives at all steps of the risk management process.

See Appendix 4: *Worker engagement, participation and representation (Part 3 of HSWA)* for information about consulting with your workers and their representatives.

If the control measures relate to particular risks such as remote or isolated work, you must maintain and review the control measures as set out in the GRWM regulations. For more information see Appendix 5: *The Health and Safety at Work (General Risk and Workplace Management) Regulations 2016 duties*.

9.0 Emergency preparedness and response plans

If a natural hazard happens during your adventure activity you need to be prepared with an effective emergency response plan, so you can respond quickly and effectively

Natural hazards can change over time and can be unpredictable. So even if you have effectively assessed the risk and applied the right control measures as part of your risk management plan, things can still go wrong.

As well as having a good risk management plan you must have an emergency plan that is developed with your workers.

For more information about emergency plans, see WorkSafe's webpage: Workplace emergency plans

9.1 What your emergency plan must include

Your emergency plan must include an effective response to any emergency that may arise from a natural hazard that happens during an activity, including how to:

- evacuate your operating area safely
- notify emergency services as quickly as possible
- provide first aid treatment and assistance
- ensure effective communication between the person authorised by the PCBU to co-ordinate the emergency response and all other persons at the workplace.

The plan must include details about:

- testing the emergency procedures to make sure they work and are effective for the activities and the operating environment
- how often testing is done
- information, training and instruction to be provided to relevant workers about carrying out the emergency procedures.

9.2 Maintain your emergency plan

You must maintain the emergency plan so it remains effective. Review and update it:

- after an incident or emergency
- when there are significant findings from any test or review
- if a person, procedure, or action specified in it is changed.

9.3 Access to first aid

Workers and participants must have access to a worker with a current first aid qualification that is appropriate for dealing with the type of injuries that could arise from workers and participants being exposed to a natural hazard.

9.4 Implementing your emergency plan when a sole guide is incapacitated

If an activity is led by a sole guide you must make sure participants know what to do in an emergency if the guide becomes incapacitated.

If a participant agrees to take on the responsibility of implementing the emergency plan if the sole guide becomes incapacitated, give them clear instructions about what is required and make sure they understand them. You must do this before the activity has started. It may also be helpful to provide the participant with something as a reminder, such as a prompt card.

9.5 Things to think about when developing your emergency plan

The following table provides factors and things to think about when deciding what your procedures will be.

Factors to consider	Things to think about
Hazard	– the natural hazards in your operating area – what natural hazards could happen in your operating area.
Participants	– the number of participants in the activity – the participants' skills and ability to respond to an emergency or evacuate an area quickly, Consider their fitness and pre-existing health conditions.
Workers	– how many workers are on the activity to help respond to an emergency and whether they can manage the number of participants – how many workers are needed to call for help if an emergency arises – how many workers are needed to carry out first aid – whether workers have sufficient communication tools to get in contact with emergency services or workers back at base, such as an emergency locator beacon or radio.
Equipment and supplies	– what first aid supplies are needed to treat injuries in an emergency – what equipment is needed to respond to an emergency and whether you have enough for everyone participating. Equipment includes shelter, shovels for moving snow or debris, lifejackets, masks or emergency blankets – that all participants have sufficient food and water supplies.
Operating area	– how remote the area is and the time it would take to receive outside assistance or evacuate

	– establishing emergency exit routes and access points for outside assistance – how you will manage the situation while waiting for outside assistance – having clear criteria for deciding when to stay put, self-evacuate or seek outside assistance.

Table 4: Things to think about when developing an emergency plan

10.0 Notifying WorkSafe of certain events

Registered adventure activity operators have a duty to tell WorkSafe if certain natural hazards happen in their operating area

You must notify WorkSafe if any of the following notifiable events happen because of work your business is responsible for:

– a death

– a notifiable injury or illness

– a notifiable incident.

This includes these notifiable events in the Adventure Activities Regulations:

- A notifiable incident that is a natural hazard which happens in connection with an adventure activity as detailed below.
- A notifiable injury or illness that is an injury sustained or illness acquired by a person in connection with an adventure activity that requires, or would usually require, the person to have medical treatment within 48 hours of the injury being sustained or the illness being acquired.

10.1 When natural hazards have to be notified

The operating environments of adventure activities is unique and nearly all have some risk from natural hazards.

Operators must notify WorkSafe of a natural hazard that happens in connection with an adventure activity, if it is not routinely encountered during the ordinary course of the adventure activity. Consider the type, severity and other distinguishing features of the hazard.

To help you decide whether a natural hazard incident is notifiable, consider if the natural hazard:

- has exposed participants, workers or any others to a serious health and safety risk due to exposure to the natural hazard
- is outside what is usually encountered during the adventure activity. Consider the type of natural hazard, the severity, and distinguishing features of the natural hazard
- has impacted the ability to run the adventure activity safely at the location where you are registered to provide your adventure activity.

To notify WorkSafe:

– of a person's death at a workplace, call 0800 030 040 immediately

– of all other notifications, see the WorkSafe tool: Notify WorkSafe

For more information, see WorkSafe's guidance: What events need to be notified?

11.0 Providing information about serious risks to participants

You must provide potential participants of an adventure activity with information about any serious risks so they can make an informed decision about participating

An adventure activity operator has a duty to take all reasonable steps to inform potential participants about any serious risks to their health and safety. This includes serious risks from natural hazards that they may be exposed to if they participate in the adventure activity.

When communicating with participants you must consider their communication needs (for example, language differences, age and literacy level).

11.1 Information you should provide

The information provided should have an appropriate level of detail about the serious risk.

The information should include the sources of serious risk and the related safety requirements. For example, minimum fitness levels, medical requirements, description of any required pre-activity training or qualification of participants.

11.2 When to provide the information

Information about serious risks must be made available before the activity is booked so potential participants can make an informed choice about potentially participating in the activity.

Any changes to information about serious risks provided previously should be provided to potential participants right up to the point where they start the activity.

11.3 Providing information through someone else

If you use an agency to advertise, promote or sell your adventure activity, you must take all reasonable steps to make sure they provide information about all serious risks to your potential participants.

You should have a process in place to make sure that the information about serious risks is given to the potential participants.

You should also have a process to tell the agency about any changes to serious risks.

These processes should be documented, and you should check regularly that they are being carried out correctly.

For more information, see WorkSafe's webpage: Policy Clarification – How we apply Adventure Activity Regulation 8A

12.0 Glossary

Term	Definition
Activity	Means an adventure activity as defined in regulation 4 of the Health and Safety at Work (Adventure Activities) Regulations 2016
Control measure	A way of eliminating or minimising risks to health and safety.
Duty	A legal obligation to act responsibly according to the law.
Dynamic risk management	To assess and manage risks during an activity and as risks change.
Environment	The geographical area, surroundings and condition of the operating area.
Good practice	The range of actions that are currently accepted within the adventure and outdoor sector as an appropriate and practical means to manage the risk of harm to workers, participants and visitors. Good practice should also reflect relevant standards recognised within the sector for the safe provision of adventure activities where these exist. This may include: – activity safety guidelines – codes of practice or conduct – other recognised guidelines – accepted professional practices.
Harm	Harm is illness, injury, or both, and includes physical and mental harm caused by work-related stress.
Hazard	Anything that can cause harm, including mental harm. It could include an object, situation, or behaviour.
HSWA	Health and Safety at Work Act 2015. The key work health and safety legislation in New Zealand. HSWA applies to all work and workplaces unless specifically excluded. You can find the full text of the Act on the New Zealand Legislation website
Incident	Event that caused or could have caused harm to any person. **Note**: An incident that did not cause harm is also called a 'near miss', 'near hit', 'close call', 'near-accident', or similar. A near-miss is an incident in which no personal injury was sustained, but where, given a slight shift in situation, harm may have happened.
Land owner	Owner of land that can be used by operators for recreational access such as land owned:

	– publicly/by the Crown (for example, Department of Conservation land, Council land, forestry land or school land), or – privately (for example, working farms).
Natural hazard	For the purposes of this guidance, the definition in regulation 19A of the Adventure Activities Regulations has been adopted. Natural hazard means: any atmospheric-, land-, or water-related occurrence (including volcanic activity, landslip, avalanche, rockfall, ice fall, storm, or flooding) the action of which adversely affects a location where an adventure activity is provided.
Operation	The business and organised action, process or manner of providing an activity or ancillary service.
Operator and Adventure Activity Operator	A 'PCBU' who provides an adventure activity to a participant. Adventure Activity Operator and Operator includes a PCBU that provides an adventure activity as a contractor to an organisation that would otherwise be excluded from the definition of "adventure activity" in regulation 4 of the Adventure Activities Regulations if they provided the activity. These organisations include: – sports or recreation clubs – associations representing sports or recreation clubs – registered schools or tertiary education providers.
Participant	Person who participates in an adventure activity and is not a worker.
Potential participant	Someone who: - has not made a commitment to the activity, or - has not yet started the activity.
PCBU	PCBU (person conducting a business or undertaking) has the meaning defined in section 17 of HSWA. **Note**: A PCBU includes but is not limited to a sole trader, company, partnership, trading trust, incorporated society and charitable trust.
Reasonably practicable	What is, or was, reasonably able to be done to ensure health and safety. See Appendix 3: *So far as is reasonably practicable (section 22 of HSWA)*
Registered operator	An Adventure Activity Operator or Operator who is registered in accordance with subpart 1 of Part 2, of the Health and Safety at Work (Adventure Activities) regulations 2016.

Remaining risk	The risk that remains if elimination of a hazard is not reasonably practicable or control measures to minimise a risk have been put in place but do not fully minimise the risk
Risk	Risks to health and safety arise from people being exposed to hazards (anything that can cause harm).
Safety management system	Documented management system for directing and controlling an operation in regard to safety.
Serious risk	Means or includes a chance of a notifiable event, as the context requires. Note: "serious risk" is defined in the Safety Audit Standard as "a chance of a notifiable event" but as there is no relevant legislative definition of "serious risk" the meaning may be broader than this definition when used in other contexts.
Technical Adviser	A person or group of people that can help you with various technical tasks. See Appendix 1: *Technical advisers*
Trigger point	When there is a hazard, a control measure needs to be put in place to manage the risk.
Worker	A person who carries out work in any capacity for a PCBU. Workers can be at any level (for example, managers are workers too). PCBU is also a worker if the PCBU is an individual who carries out work in that business or undertaking. See Appendix 2: *Health and Safety at Work Act 2015 duties*
Workplace	Any place where a worker goes or is likely to be while at work, or where work is being carried out or is customarily carried out. Most duties under HSWA relate to the conduct of work. However, some duties are linked to workplaces.

Table 5: Glossary

13.0 Appendices

Appendix 1: Technical advisers

Section 4.1 of the Safety Audit Standard requires you to use a technical adviser, either in-house or external, to identify and assess hazards and risks.

Section 9.3 of the Safety Audit Standard recommends a technical adviser is used when doing internal reviews.

Appendix 1 of the Safety Audit Standard provides a definition of the term 'technical adviser'.

The following information provides more detail about:

- **the different types of technical advisers**
- **when you need to use a technical adviser**
- **what qualifications, skills, knowledge or experience they need to be considered competent as a technical adviser.**

What type of technical adviser do you need?

Activity technical adviser
You must use a technical adviser to help you identify hazards and assess risks. They must have either:
- a qualification relevant to the activity you operate, or
- extensive knowledge, skills and experience relevant to the activity you operate.

If the activity technical adviser's qualification, or knowledge, skills and experience does not extend to a natural hazard that is present or could happen in your operating area then you will need to use a different technical adviser for advice about those natural hazards.

A good activity technical adviser will know what they cannot advise you about as an activity expert. They should tell you if they cannot provide advice on natural hazards so you can get help from someone who can.

Natural hazard technical adviser
You need to get a natural hazard technical adviser if your activity technical adviser is unable to:
- determine with certainty whether a natural hazard is present or could happen in your operating area, or
- assess the serious risks arising from an identified natural hazard, or
- provide advice about ways to manage serious risk identified as arising from a natural hazard.

A natural hazard technical adviser may not be needed by all operators. An example of this is where all activities operate on an artificial structure at a land-based site with no identifiable serious risk arising from natural hazards.

When getting advice on natural hazards from a technical adviser you must make sure they have either:
- a qualification relevant to the natural hazard they are advising on, or
- extensive knowledge, skills and experience relevant to the natural hazard they are advising on.

If the activity or natural hazard technical adviser cannot provide advice about certain matters relating to the natural hazard, they should tell you so you can get help from someone who can provide you with the right advice.

How do you make sure the technical adviser has the right qualification, knowledge, skills, and experience for the technical task?

- Do research on the technical adviser – are they right for the task?
- Talk to them before you decide to use them - are they the right adviser for your activity or identified natural hazard?
- Ask to see their qualifications – are they relevant and up to date?
- Ask to see their previous work – is it relevant to the technical tasks you have?
- Talk to other adventure activity operators who have used them before - are they happy with the help they got?

Get a written report

It is good practice for the technical adviser to provide you with a written report which outlines their qualifications, expertise and their advice including any concerns and recommendations.

The report will form part of your safety management system documents and help you implement the right control measures for any risks you, your workers and technical adviser have identified and assessed.

What qualification, knowledge, skills and experience should a technical adviser have?

What qualifications should a technical adviser have?

An activity technical adviser should have relevant and up to date professional credentials such as a high-level, nationally or internationally recognised qualification relevant to the technical task.

A natural hazard technical adviser should have a qualification such as a relevant post-graduate academic qualification. They should also have evidence of current competence such as recent employment in a relevant role if they are providing specialist natural hazard advice.

Examples of high-level qualifications include:

- NZOIA Level 2
- NZ diploma in outdoor recreation level 6+
- Bachelor's degree
- Diploma
- A dive agency instructor certifier

Note: An international qualification should be equivalent to or exceed NZ qualifications.

What knowledge should a technical adviser have?

A technical adviser should have knowledge of:

- adventure activities like yours
- the type of environment you operate in
- 'landmark' incidents that have happened in similar activities worldwide
- specific natural hazards that they provide advice on
- how safety management systems are used to support your operation
- relevant workers competency requirements and assessments (if advising on these)
- relevant client management strategies
- relevant good practice for emergency preparations and incident reviews
- the range of equipment and techniques typically used.

What skills should a technical adviser have?

A technical adviser should have skills to:

- assess risks associated to specific natural hazards identified
- provide evidence-based advice about ways you can eliminate or minimise those risks
- assess the safe and correct use of equipment.

What experience should a technical adviser have?

Depending on how technical the activity is, the technical adviser should have at least five years of experience working in your adventure activity industry or advising on a specific natural hazard. This experience should include leading or contributing to formal Safety Management Systems and should cover a range of different operations.

A technical adviser should be able to show you relevant high quality written reports and evidence of advice provided to their previous clients for the technical task you have given them. They may also provide professional references that you can contact to confirm the previous clients' satisfaction with their work.

Appendix 2: Health and Safety at Work Act 2015 duties

The Health and Safety at Work Act 2015 (HSWA) is New Zealand's key work health and safety law.

All work and workplaces are covered by HSWA unless they have been specifically excluded. HSWA sets out the work health and safety duties that duty holders must comply with.

There are four types of duty holder under HSWA:
- a person conducting a business or understanding (PCBU)
- an officer
- a worker
- an 'other person' at the workplace.

Most duties under HSWA relate to **how** work is carried out. However, some duties are linked to **where** work is carried out: the workplace.

A **workplace** is a place where work is being carried out or usually carried out for a business or undertaking. It includes any place where a worker goes or is likely to be while at work (section 20 of HSWA).

Duty holder	Who are they?	Examples	What are their duties?	For more information
Person Conducting a Business or Undertaking (PCBU)	A person conducting a business or undertaking (PCBU) may be an individual person or an organisation. *The following **are not** PCBUs:* - *officers* - *workers* - *other persons at a workplace* - *volunteer associations that do not have employees* - *home occupiers (such as home owners or tenants) who pay someone to do work around the home* (section 17 of HSWA).	- a business - a self-employed person - partners in a partnership - a government agency - a local council - a school or university.	A PCBU has many duties. Key duties are summarised below. **Primary duty of care** (section 36 of HSWA) A PCBU must ensure, so far as is reasonably practicable, the health and safety of workers, and that other persons are not put at risk by its work. **Managing risks** (section 30 of HSWA) Risks to health and safety arise from people being exposed to hazards (anything that can cause harm). A PCBU must manage work health and safety risks. – A PCBU must first try to **eliminate** a risk so far as is reasonably practicable. This can be done by removing the source of harm (for example, removing faulty equipment or a trip hazard). – If it is not reasonably practicable to eliminate the risk, it must be **minimised** so far as is reasonably practicable. **Overlapping duties: working with other PCBUs** (section 34 of HSWA) A PCBU with overlapping duties must, so far as is reasonably practicable, consult, cooperate and coordinate activities with other PCBUs they share duties with.	Introduction to the Health and Safety at Work Act 2015 Appendix 3 of this guidance for an explanation of 'so far as is reasonably practicable' Identifying, assessing and managing work risks Section 5 of this guidance Section 4 and 5.3 of the Safety management systems safety audit standard Section 2.2 of this guidance

Duty holder	Who are they?	Examples	What are their duties?	For more information
			Involving workers: worker engagement, participation and representation (Part 3 of HSWA) A PCBU must, so far as is reasonably practicable, engage with their workers (or their workers' representatives) about health and safety matters that will directly affect the workers. A PCBU must have worker participation practices that give their workers reasonable opportunities to participate in improving health and safety on an ongoing basis.	Appendix 4 of this guidance
Upstream PCBU	A PCBU in the supply chain	- a designer - a manufacturer - a supplier - an importer - an installer, constructor, or commissioner.	**Upstream PCBU** (sections 39-43 of HSWA) An upstream PCBU must ensure, so far as is reasonably practicable, that the work they do or the things they provide to other workplaces do not create health and safety risks.	Introduction to the Health and Safety at Work Act 2015
Officer	A specified person or a person who exercises significant influence over the management of the business or undertaking (section 18 of HSWA).	- a company director - a partner or general partner - a chief executive.	**Officer** (section 44 of HSWA) An officer must exercise due diligence to ensure that the PCBU meets their health and safety duties.	Introduction to the Health and Safety at Work Act 2015
Worker	An individual who carries out work for a PCBU (section 19 of HSWA).	- an employee - a contractor or sub-contractor - an employee of a contractor or sub-contractor - an employee of a labour hire company - an outworker (including homeworker) - an apprentice or trainee - a person gaining work experience or on a work trial - a volunteer worker.	**Worker** (section 45 of HSWA) A worker must take reasonable care of their own health and safety, and take reasonable care that they do not harm others at work. A worker must cooperate with reasonable policies and procedures the PCBU has in place that the worker has been told about. A worker must comply, as far as they are reasonably able, with any reasonable instruction given by the PCBU so the PCBU can meet their legal duties.	Introduction to the Health and Safety at Work Act 2015
Other person at the workplace	An individual present at a workplace (not a worker)	- a workplace visitor - a casual volunteer (not a volunteer worker) - a customer or participant.	**Other person at the workplace** (section 46 of HSWA) An 'other person' has a duty to take reasonable care of their own health and safety, and not adversely affect the health and safety of anyone else. They must comply, as far as they are reasonably able, with reasonable instructions relating to health and safety at the workplace.	Introduction to the Health and Safety at Work Act 2015

Appendix 3: So far as is reasonably practicable (section 22 of HSWA)

Certain PCBU duties (the section 36-43 duties including the primary duty of care) must be carried out 'so far as is reasonably practicable'.

What to consider when deciding what is 'reasonably practicable'

Just because something is possible to do, does not mean it is reasonably practicable in the circumstances.

Consider:

- What possible actions can be taken to make sure health and safety duties are met?
- Of these possible actions, at a particular time, what is reasonable to do?

Think about these questions.

What is known about the risk?

- How likely is the risk to happen?
- How severe is the illness or injury that might happen if something goes wrong?
- What is known, or should reasonably be known, about the risk?

What is known about possible control measures?

- What is known, or should reasonably be known, about the ways (control measures) to eliminate or minimise the risk?
- What control measures are available?
- How suitable are the control measures to manage the risk?
- What are the costs of these control measures?
- Are the costs grossly disproportionate to the risk? Cost must only be used as a reason to not do something when that cost is grossly out of proportion to the risk.

While PCBUs should check if there are widely used control measures for that risk (such as industry standards), they should always keep their specific circumstances in mind. A common industry practice might not be the most effective or suitable control measure to use.

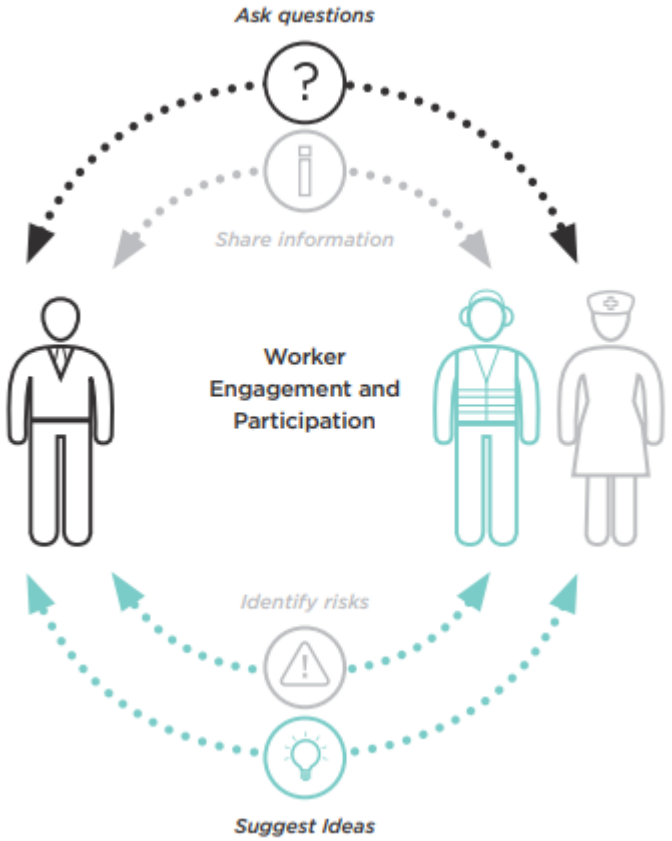
If PCBUs are not sure what control measures are suitable, WorkSafe recommends getting advice from a suitably qualified and experienced health and safety professional.

For more information, see our guidance: Reasonably practicable

Appendix 4: Worker engagement, participation and representation (Part 3 of HSWA)

Engage with workers and enable their participation

A PCBU has two main duties related to worker engagement and participation:
- to engage with workers on health and safety matters that affect or are likely to affect workers, so far as is reasonably practicable, and
- to have practices that give workers reasonable opportunities to participate effectively in the ongoing improvement of work health and safety.



A PCBU can engage with workers by:
- sharing information about health and safety matters so that workers are well-informed, know what is going on and can contribute to decision-making
- giving workers reasonable opportunities to have a say about health and safety matters
- listening to and considering what workers have to say at each step of the risk management process
- considering workers' views when health and safety decisions are being made
- updating workers about what decisions have been made.

A PCBU must engage with workers during specified times, including when identifying hazards and assessing risks
.
A PCBU must have clear, effective, and ongoing ways for workers to suggest improvements or raise concerns.

Worker representation

Workers can be represented by a Health and Safety Representative (HSR), a union representing workers, or a person that workers authorise to represent them (for example, a community or church leader, or another trusted member of the community).

HSRs and Health and Safety Committees (HSCs) are two well-established methods of participation and representation. If workers are represented by an HSR, worker engagement must also involve that representative.

For more information

WorkSafe guidance

Good practice guidelines

Worker engagement, participation and representation

Interpretive guidelines

Worker representation through Health and Safety Representatives and Health and Safety Committees

Pamphlets

Worker representation

Health and Safety Committees

Health and Safety Representatives

Appendix 5: The Health and Safety at Work (General Risk and Workplace Management) Regulations 2016 duties

The Health and Safety at Work (General Risk and Workplace Management) Regulations 2016 (GRWM Regulations) sit under HSWA and prescribe certain requirements to be met including the requirement to:

Duty holder	What are their duties?	For more information
Person Conducting a Business or Undertaking (PCBU)	A PCBU has many duties. Key duties are summarised below. **Duty to provide information, supervision, training and instruction** (Regulation 9 of GRWM) A PCBU must ensure, so far as is reasonably practicable, every worker: – has adequate knowledge and experience of similar places, and work, plant, or substances of that kind, to ensure the worker carrying out the work is not likely to adversely affect the health and safety or cause harm to themselves or others, or – is adequately supervised by a person who has that knowledge and experience; and – is adequately trained in the safe use of equipment they are or may be required to use or handle, and any PPE they may be required to wear or use.	General risk and workplace management - part 1 | WorkSafe
Person Conducting a Business or Undertaking (PCBU)	**Duty to provide first aid** (Regulation 13 GRWM) A PCBU must ensure: – adequate first aid equipment is supplied, and each worker has access to it and facilities for the administration of first aid – adequate number of workers are trained, or they have access to an adequate number of other persons who have been trained to administer first aid.	General risk and workplace management - part 1 | WorkSafe
Person Conducting a Business or Undertaking (PCBU)	**Duty to prepare, maintain, and implement emergency plan** (Regulation 14 GRWM Regulations) A PCBU must ensure an emergency plan is prepared for the workplace.	General risk and workplace management - part 1 | WorkSafe
Person Conducting a Business or Undertaking (PCBU)	**Duty to provide personal protective equipment** (Regulation 15 GRWM Regulations) If PPE is to be used, a PCBU must provide it unless it is provided by another PCBU, or the worker chooses to provide their own suitable PPE.	General risk and workplace management - part 1 | WorkSafe
Person Conducting a Business or Undertaking (PCBU)	**Duty to manage particular risks to health and safety** (Regulations 5 to 8 GRWM Regulations) A specified risk management approach must be used, or certain requirements met when dealing with certain kinds of work or work situations, including: – remote or isolated work (Regulation 21) – falling objects (Regulation 25).	Approach for dealing with certain kinds of work or work situations | WorkSafe