

Risk Management

Purpose

Risk is defined as the possibility that due to unforeseen circumstances, a business will experience adverse conditions that result in a probability or threat of damage, injury, liability, loss, or any other negative occurrence.

The purpose of this procedure is to ensure that a formal process exists for the identification and management of risk in order that the effects of that risk are minimised.

The procedure provides guidelines on the process for identification, assessment and control of identified risks within Pipeline Watertech operations to reduce the potential impact of those risks.

The design, implementation and maintenance of risk management processes is based on the principles of ISO31000:2018

Scope

This procedure applies in the following circumstances:

1. Organisational (Quality) Risk
2. Environmental Risk
3. Work Health & Safety Risk

Managing Risk

The Organisation identifies and manages risks and hazards by;

- identify risks – find out what could cause harm;
- assess risks if necessary – understand the nature of the harm that could be caused by the hazard, how serious the harm could be and the likelihood of it happening;
- control risks – implement the most effective control measure that is reasonably practicable in the circumstances; and
- review control measures to ensure they are working as planned.



Assessment of Risk

Risk assessment involves analysing the inherent risk and taking into consideration the components of likelihood and consequence. The residual risk is determined by considering the likelihood and consequence following implementation of risk control options.

The level of risk associated with individual hazards is assessed against two criteria:

- the probability that the identified situation will occur; and
- the likely outcome should that situation occur.

Once a risk has been identified resources will be allocated to determine how likely it is that specific circumstances could occur and what the consequence of those circumstances could be. This should include:

- identify factors that may be contributing to the risk,
- review that is reasonably available from an authoritative source and is relevant to the particular risk,
- evaluate the likelihood of an event occurring and the likely severity of the outcome,
- identify the actions necessary to eliminate or control the risk; and
- identify records required to ensure that the risks are eliminate or controlled.

Management of Risk

The inherent level of risk associated with each event is determined when the risk is identified.

Risk Categories

Risk Categories dealt with by the Management System are:

1. Organisational Risks
2. Environmental Risks
3. Work Health & Safety Risks

Risk Assessment Framework

Risk Analysis is carried out using the assessment framework below. The Risk Assessment Framework is based on the requirements of AS ISO 31000:2018

		Likelihood				
		Very Low	Low	Moderate	High	Very High
Consequence	Very Low	Low	Low	Low	Low	Low
	Low	Low	Low	Moderate	Moderate	Moderate
	Moderate	Low	Moderate	Moderate	Moderate	High
	High	Low	Moderate	High	High	High
	Very High	Low	Moderate	High	High	High

Qualitative Measures of Likelihood

Level	Descriptor	Example Detail Description	Frequency
1	Rare	The event may occur only in exceptional circumstances	Less than once in five years
2	Unlikely	The event could occur at some time	At least once in five years
3	Moderate	The event should occur at some time	At least once in three years
4	Likely	The event will probably occur in most circumstances	Once per year
5	Almost Certain	The event is expected to occur in most circumstances	More than once per year

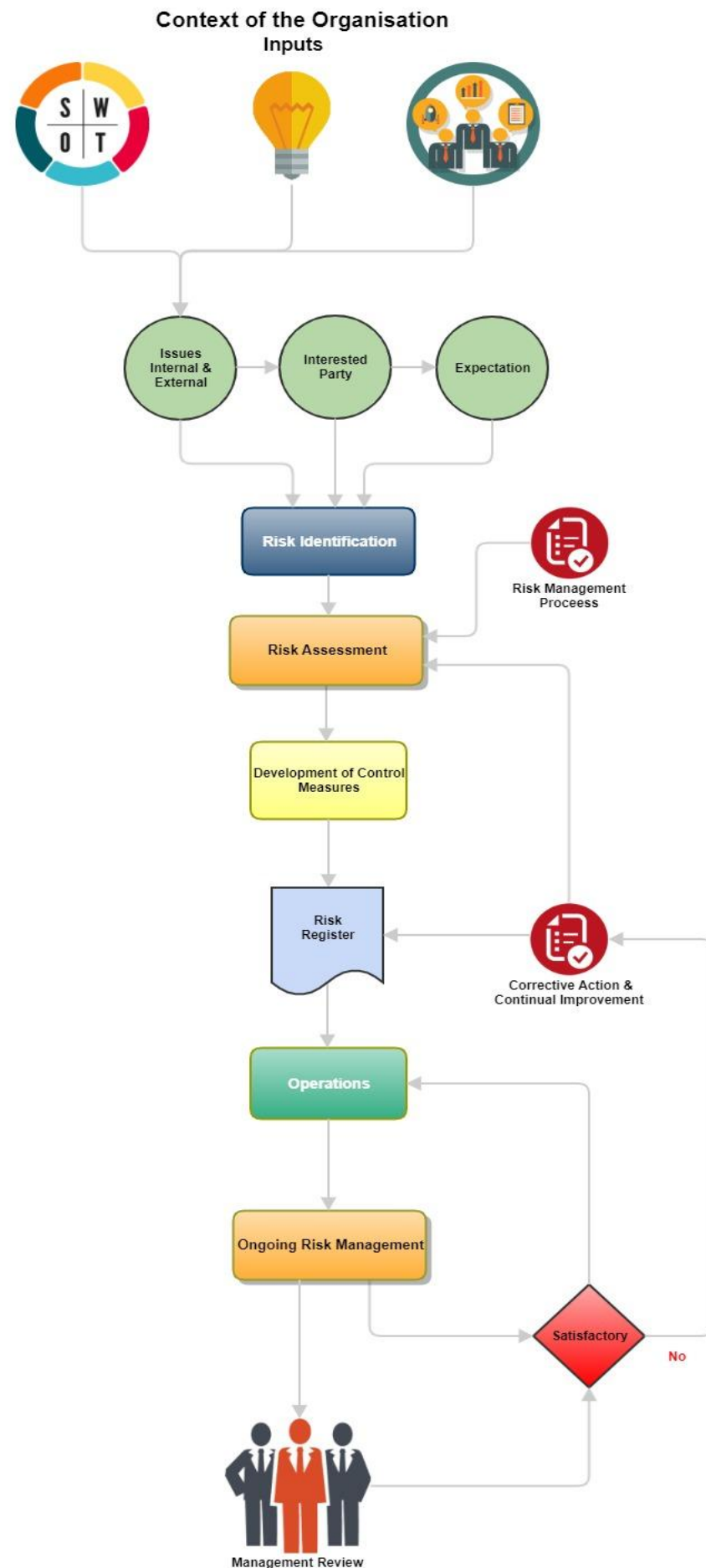
Qualitative Measures of Consequence

Rating	Description	Safety	Environment	Financial	Operational	Reputational	Strategic	Technical	Compliance
1	Insignificant	No Real Injuries	No Corrective Action Required. No Breach of Regulations	< \$20,000 Damages	Some Insignificant Delays or Change to Service	Suggested Improvements and Unsubstantiated Complaints	Resolved in Day-to-Day Management	Operational - Minor Rectification Required	Guidance Required for Compliance
2	Minor	First Aid Injury	Impact Confined to Site Action/Control Required	\$20,000 to \$99,000 Loss or Damages	Some Minor Delays or Some Services Cancelled	Substantiated Complaints and Lobby group Correspondence	Minor Impact	Service Restrictions - Rectification Required	Some Non-Compliance
3	Moderate	Medical Injury	Contained Off-Site Environmental Damage. Regulatory Enforcement Action	\$100,000 to \$999,999 Loss or Damages	Some Moderate Delays and Some Services Cancelled	Complaints and Short Term Drop in Patronage. News Reports and Parliamentary Questions	Significant Impact	Non-Operational - Minor Rectification Required Before Operational	Many Compliance or Probity Infringements and Some Processes Repeated

4	Major	Death or Major Injuries	Un-contained Off-Site Environmental Damage. Notification to Authority Required. Civil Prosecution.	\$1 Million to \$9 Million Loss or Damages	Major Delays and Most Services Cancelled	Sustained Drop in Patronage. High Profile News Reports and Political Embarrassment.	Major Impact	Non-Operational - Extensive Rectification Required Before Operational	Non-Compliance results in Termination of Process or Imposed Penalties
5	Catastrophic	Multiple Deaths	Long Term Environmental Damage. Criminal Prosecution	> \$10 Million Loss or Damages	All Services Cancelled	Patronage Decrease Causes Cancellation of Service. Widespread News reports and Major Political Government Repercussions or Charge	Disastrous Impact	Non-Operational - Cannot Be Rectified	Non-Compliance Results in Criminal Charges or Loss of required Accreditation

Organisational Risk

Organisation Risk is managed as follows:



Control Measures (detailed in the Risks Register) are developed as required, with the aim of achieving the highest level of effectiveness.

Environmental Risks

This aim of this process is to identify and evaluate the significance of the environmental aspects of the organisation in order to determine those aspects which have actual or potential significant impacts upon the environment. This procedure covers the framework within which the company shall establish and maintain environmental objectives and targets and environmental management programs. The Management System Coordinator identifies the environmental aspects within the scope of this EMS that can be controlled or those it can influence by taking into account planned or new activities, products and services. This information is documented.

All relevant activities, processes and services which are identified as environmental aspects are documented using appropriate diagrammatic or graphical means, where necessary.

An environmental aspect is an element of Pipeline Watertech activities that can interact with the surroundings in which we and our subcontractors operate, including air, water, land, natural resources, flora, fauna and people.

An environmental impact is any change of those surroundings, whether adverse or beneficial, wholly or partially resulting from our activities under this contract.

Specific environmental aspects are classified into General Aspect Categories as below:

- Air Emissions
- Liquid & Solid Wastes
- Storage of Hazardous materials
- Wastewater Discharges
- Raw materials
- Water Usage
- Energy Usage
- Noise
- Odour

Each of the organisational processes are analysed against the aspects detailed above and recorded in the Process Map. The identified aspects are summarised in the Environmental Aspects Register.

The Environmental Aspects Register is reviewed periodically. New aspects that should be added and any old aspects that should be deleted are recorded accordingly.

The criteria for environmental impact are detailed in the Register - Table of Aspect Frequency, Severity & Environmental Impact - see diagram below.

Environmental aspects that are classified as Significant Aspects based on established criteria and are subject to relevant legislation, regulation or other permit requirements. All aspects with an environmental impact rated as HIGH are defined as significant impacts.

Environmental impact is calculated using the matrix detailed below:

Probability	Nil	Minor	Serious	Major	Catastrophic
Remote	Low	Low	Low	Low	Medium
Unlikely	Low	Low	Low	Medium	Medium
Possible	Low	Low	Medium	Medium	High
Likely	Low	Medium	Medium	High	High
Certain	Medium	Medium	High	High	High

Work Health & Safety Risks

Pipeline Watertech has obligations under Work Health and Safety legislation to identify foreseeable hazards that may arise in the workplace and to assess the risk of potential harm arising from these hazards.

Pipeline Watertech must be able to demonstrate that it has implemented risk control measures to reduce the inherent risk of workplace hazards to as low as reasonably practical. Each identified hazard is assessed for inherent risk using the included Risk Assessment Framework Risk control measures will be identified and considered in terms of the Hierarchy of Risk Control.

Hazard Identification

Hazards may be identified through, but not limited to, the following processes:

- Formal Risk Assessments.
- Formal hazard studies/investigations.
- Accident/Incident investigation.
- Job Hazard Analysis.
- Toolbox and pre-start meetings, quarterly Staff meetings, Step Back, Take 5's or other methods designed to facilitate hazard identification.
- Verbal or email notification of hazards by individual employees, contractors, sub-contractors or visitors.
- Customer site procedures, inductions and Safe Work Method Statements.

Visual inspections of the workplace:

- Assessment of new plant, equipment, processes and substances prior to introduction
- New information that affects safety and health assessments such new legislation, regulations or standards, or customer procedures;
- Reports from external persons/bodies such as SafeWork, circulars from professional organisations and WHS Consultants;
- Reviews of contractor proposed work methods and work practices; or
- Supplier product specifications and reviews.

All Hazards not previously identified will be subject to a Risk Assessment.

Identified Hazards are detailed in:

1. Risk Assessments
2. Work Method Statements

Hazard Categories

Hazard categories will include, but may not be limited to, the following:

Physical hazards, including:

- mechanical risks from machinery
- exposure to noise and vibration,
- inadequate lighting
- fire and explosion
- electricity
- heat
- cold
- poor housekeeping.

Hazardous substances, including:

- flammable solvents

- corrosives and poisons
- hazards relating to chemicals can arise from;
- ingestion
- contact or inhalation of vapors
- contact or inhalation of mists

Ergonomic hazards, concerned with the interaction of the person and machine and may concentrate on:

- manual handling
- tools and equipment
- work stations
- work process
- the workplace as a whole
- inadequate design considerations for both tools and equipment design can lead to injury.

Activities and tasks which may lead to injury, including but not limited to:

- Lifting or lowering loads;
- Carrying, stacking, pushing, pulling, rolling, sliding and wheeling of loads;
- Operating levers and other mechanical devices;
- Maintaining an unbalanced posture while performing these tasks.

Psychological hazards include:

- work schedule arrangements and shift work
- workload
- dealing with conflict, public
- harassment
- discrimination and
- low level constant noise

Assessment of Risk

The level of risk associated with individual hazards is assessed against two criteria:

1. the probability that the identified situation will occur; and

Level	Description of Consequence
Insignificant (C1)	Near Hit with NO injury, but potential to cause injury Environmental incident with potential to damage the environment but with NO actual damage
Minor (C2)	Minor Injury requiring first aid treatment, cuts/bruises (no stitches required), minor burns Minor Environmental release. Impact immediately managed or contained
Moderate (C3)	Medical Treatment Injury recovery is likely, broken bones, stitches, burns requiring medical attention Environmental release with moderate detrimental effects requiring remedial action, reportable to authorities
Major (C4)	Lost Time Injury, hospitalisation, permanent disability, serious internal and/or head injuries Environmental non-permanent impact with major detrimental effects
Catastrophic (C5)	Fatality or permanent disability to ten or more people Environmental permanent & significant impact in significant areas

2. the likely outcome should that situation occur.

Level	Likelihood / Probability
Negligible (L1)	The event will occur only in exceptionally rare circumstances
Unlikely (L2)	The event may occur at some time but is unlikely to do so
Possible (L3)	The event could occur
Likely (L4)	The event will occur in most circumstances and is likely to do so
Almost certain (L5)	The event will almost certainly occur

Risk is identified using the following ranking system:

RISK RATING MATRIX

Consequence →	Low (C1) No Injury most probable outcome; Losses in <\$500; Environmental impact small localised and contained;	Minor (C2) FAI most probable outcome; Losses in excess >\$500 <\$15,000; Environmental impact, contained impact requiring minor remedial action.	Moderate (C3) MTI or LTI most probable outcome; Losses in excess >\$15,000 <\$50,000; Environmental impact, medium term contained impact requiring considerable remedial action.	Major (C4) LTI most probable outcome; Losses in excess >\$50,000 <\$100,000; Environmental contamination off-site, considerable remediation required	Critical (C5) A fatality(s) most probable outcome; Losses in excess >\$100,000; Irreversible/irreparable environmental contamination.
Likelihood ↓					
Rare (L1) A similar incident is unlikely to occur again	L2	L3	L4	M5	M6
Unlikely (L2) A similar incident could occur in the next 5 years	L3	L4	M5	M6	H7
Possible (L3) A similar incident could occur in the next 1 year	L4	M5	M6	H7	H8
Likely (L4) A similar incident could occur in the next 6 months	M5	M6	H7	H8	E9
Almost certain (L5) A similar incident could occur in the next 1 month	M6	H7	H8	E9	E10
Risk Score	Risk Rating	Required Action		Hierarchy of Controls	
2-4	Low risk	Manage and Monitor by routine internal procedures.		1. Elimination	Complete elimination of risk
5-6	Moderate risk	Specific monitoring or procedures to be implemented. Management responsibility to be specified and strategies implemented as part of day-to-day activities.		2. Substitution	Replacement of material, process, substance, etc.
7-8	High risk	Immediate action to be implemented by Operations Manager and HSEQ Manager. GM to be notified		3. Engineering	Designing risks out or isolation of risks
9-10	Extreme risk	Immediate action to be implemented; this level of risk needs detailed research and planning by Operations Manager and HSE Q manager. GM must be notified.		4. Administrative	Adjusting the time or conditions of risk exposure, including training options
				5. Personal protective equipment	Provision of PPE where other options are not practicable

Hierarchy of Controls

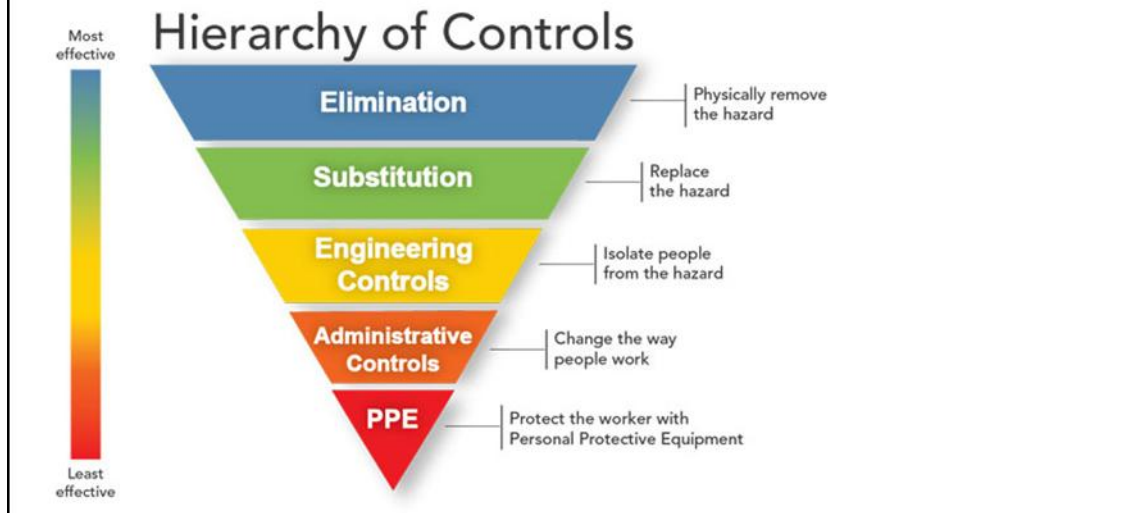
Pipeline Watertech will comply with the relevant Work Health & Safety Acts, Work Health & Safety Regulation, Codes of Practice and Australian Standards for the management of risks and hazards in the workplace.

The hierarchy of risk control when implementing any risk control measures starting at level 1 and if not possible uses a combination of the remaining control methods:

The ways of controlling risks are ranked from the highest level of protection and reliability to the lowest as shown in Figure 2. This ranking is known as the hierarchy of risk control. The WHS Regulations require duty holders to work through this hierarchy when managing risk under the WHS Regulations.

Controlling exposures to occupational hazards is the fundamental method of protecting workers. Traditionally, a hierarchy of controls has been used as a means of determining how to implement feasible and effective control solutions.

One representation of this hierarchy is as follows:



Pipeline Watertech will always aim to eliminate a hazard, which is the most effective control. If this is not reasonably practicable, you should minimise the risk by working through the other alternatives in the hierarchy.

Level 1 Control Measures

The most effective control measure involves eliminating the hazard and associated risk. The best way to do this is by, firstly, not introducing the hazard in the workplace. 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 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.

Level 2 Control Measures

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:

1. Substitute the hazard with something safer
 1. For instance, replace solvent based paints with water based ones.
2. Isolate the hazard from people
 1. This involves physically separating the source of harm from people by distance or using barriers. 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.

Level 3 Control Measures

These control measures 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. Two approaches to reduce risk in this way are:

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, or
- to supplement higher level control measures (as a back-up).

Review of Control Measures

Pipeline Watertech will review and, as necessary revise control measures implemented under the Work Health & Safety Regulation 2011 and relevant Codes of Practice so as to maintain, so far as reasonably practicable, a work environment that is without risks to health and safety.

As part of the review process regular inspections will be conducted and recorded for reporting to all relevant persons

Pipeline Watertech will review and as necessary revise a control measure if;

the control measure does not control the risk it was implemented to control so far as reasonably practicable when;

- the results of monitoring indicate the measure does not control the risk
- a notifiable incident occurs because of the risk
- before a change at the workplace that is likely to give rise to a new or different risk to health and safety
- a new relevant hazard is identified
- through consultation that a review is necessary
- the WHSR or workers requests a review
- the work environment changes and the controls in place may no longer be applicable to the risk or hazard

Pipeline Watertech identifies the potential hazards of the proposed work activities, assesses the risks involved and develops controls measures to eliminate, or minimize, the risks. The risk management process is carried out in consultation with employees. Risk Assessments are identified by task.

Work Method Statements

In some circumstances, Pipeline Watertech is required to operate under the client's documentation. In such circumstances, where documented methods or control methods differ, the more rigorous control method will be adopted. Where appropriate, these measures will be incorporated into Pipeline Watertech's documents.

Risk Assessments, WHS Management Plans and Control Measures are reviewed annually.

