water NEW ZEALAND
The New Zealand Water & Wastes Association Wai ora Aotearoa

Good Practice Guide for

OCCUPATIONAL HEALTH AND SAFETY IN THE NEW ZEALAND WATER INDUSTRY

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Prepared on behalf of the Water Services Managers Group of Water New Zealand by BECA and project managed by Rob Green of Green Infrastructure solutions.

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SECTION 1

INTRODUCTION

1 INTRODUCTION

1.1 BACKGROUND

Water New Zealand developed a collection of health and safety (HS) guidelines for its members in 1992. These were reviewed and updated in 2001. In 2016 Water New Zealand undertook a comprehensive re-development of the guidelines with the objective of:

- Providing guidance material and Model material reflective of requirements of Health and Safety at Work Act 2015 (HSWA).
- Providing examples of good risk management processes relating to activities relevant to the water industry.

The review was completed October – December 2016, using the following methodology:

1. Model framework and required content developed and agreed at workshop with the Water New Zealand Health and Safety Advisory Group.
2. Draft framework elements and Model guidelines were developed and input/comment provided by members of the group and incorporated into the final draft version.
3. The Model material and supporting information was developed into publication format. Peer review undertaken by Beca Health and Safety Technical Director and the final document provided to Water New Zealand.

1.2 ACKNOWLEDGMENTS

The following individuals and organisations participated and their input is gratefully acknowledged:

HEALTH AND SAFETY ADVISORY GROUP


Adrienne Miller
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Dunedin City Council


Ian Gill
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Mike Spekreijse
Wellington Water

Thanks to Tim Barry; BECA Ltd; Rob Green, Green Infrastructure Services Ltd; and Lesley Smith, Water New Zealand for their energy and time in preparing this document.

1.3 INTENDED USE

The material is intended for use by organisations responsible for water, wastewater and stormwater operations. The document has been targeted for use by the following users:

- Health and safety coordinator/manager
- Operations and maintenance manager
- Senior management teams.

The material is intended to provide model guidelines that organisations can develop operational specific material from, or to update existing procedures and material.

The guidelines set a common approach and standards for both organisational and operational risk management.

GUIDELINE JOB TITLES

The following general / generic job titles are used within the model procedures contained in the guideline:

Responsible Manager: Refers to Infrastructure Manger, Maintenance Manager, Operations Manager or other manager with control of function or workplace.

Health and Safety Manager: Refers to Council or Council Controlled Operations (CCO) employed specialist health and safety advisor, coordinator or manager.

Senior Management Teams: Refers to the most senior decision making group, or executive team in the organisation.

1.4 SOURCES OF INFORMATION

The links below provide information and guidelines for managing specific hazards or activities.

Worksafe New Zealand

http://www.worksafe.govt.nz/worksafe

Worksafe New Zealand Approved Codes of Practice:

http://www.worksafe.govt.nz/worksafe/information-guidance/approved-codes-of-practice-acops

Worksafe New Zealand Hazardous Substances

http://www.worksafe.govt.nz/worksafe/information-guidance/guidance-by-industry/hsno

Worksafe Tool-shed

http://www.worksafe.govt.nz/worksafe/toolshed

Worksafe Notification

http://www.worksafe.govt.nz/worksafe/toolshed

Safe Work Australia

http://www.safeworkaustralia.gov.au/sites/SWA

Worksafe Victoria

http://www.worksafe.vic.gov.au/

Health and Safety Executive (UK)

http://www.hse.gov.uk/

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SECTION 2

NEW ZEALAND HEALTH AND SAFETY LEGISLATION AND REGULATION

2 NEW ZEALAND HEALTH AND SAFETY LEGISLATION AND REGULATION

HEALTH AND SAFETY AT WORK ACT

In 2013 the Independent Taskforce on Workplace Health and Safety reported that New Zealand's work health and safety system was failing.

As a result, New Zealand's work health and safety system underwent its most significant reforms for 20 years resulting in the establishment of WorkSafe New Zealand and the Health and Safety at Work Act 2015 (HSWA) - New Zealand's workplace health and safety law which came into effect on 4 April 2016.

HSWA recognises that a well-functioning health and safety system relies on participation, leadership, and accountability by government, business and workers.

HSWA sets out the principles, duties and rights in relation to workplace health and safety.

A guiding principle of HSWA is that workers and others need to be given the highest level of protection from workplace health and safety risks, as is reasonably practicable.

EVERYONE IS RESPONSIBLE

HSWA ensures that everyone has a role to play and makes everyone's responsibilities clear:

Businesses have the primary responsibility for the health and safety of their workers and any other workers they influence or direct. They are also responsible for the health and safety of people at risk from the work of their business.

Officers (company directors, partners, board members, chief executives) must demonstrate due diligence to make sure the business understands and is meeting its health and safety responsibilities.

Workers must take reasonable care for their own health and safety and that their actions don't adversely affect the health and safety of others. They must also follow any reasonable health and safety instruction given to them by the business and cooperate with any reasonable business policy or procedure relating to health and safety in the workplace.

Other people who come into the workplace, such as visitors or customers, also have some health and safety duties to ensure that their actions don't adversely affect the health and safety of others.

IF YOU CREATE THE RISK, YOU MANAGE THE RISK

HSWA requires work-related health and safety risks to be managed. This means taking into consideration the potential for work-related health conditions as well as the injuries that could occur.

Health conditions can include both physical and psychological, acute or long-term illnesses.

ASSOCIATED REGULATIONS

Some workplace hazards have the potential to cause so much injury or disease that specific regulations or codes of practice are warranted. These regulations and codes, adopted under HSWA spell out the particular duties of particular groups of people in controlling the risks associated with specific hazards.

ACCESSING ACTS AND REGULATIONS

Copies of acts and regulations can be accessed via the Legislation New Zealand website:

Health and Safety at Work Act 2015

http://www.legislation.govt.nz/act/public/2015/0070/latest/DLM5976660.html

Hazardous Substances and New Organisms Act 1996

http://www.legislation.govt.nz/act/public/1996/0030/latest/DLM381222.html

Health and Safety at Work (General Risk and Workplace Management) Regulations 2016

http://www.legislation.govt.nz/regulation/public/2016/0013/latest/DLM6727530.html?search=qs_act%40bill%40regulation%40deemedreg_health+and+safety_resel_25_h&p=1&sr=1

Health and Safety at Work (Worker Engagement, Participation, and Representation) Regulations 2016

http://www.legislation.govt.nz/regulation/public/2016/0016/latest/DLM6314002.html?search=qs_act%40bill%40regulation%40deemedreg_health+and+safety_resel_25_h&p=1&sr=1

Health and Safety at Work (Asbestos) Regulations 2016

http://www.legislation.govt.nz/regulation/public/2016/0015/latest/DLM6729706.html?search=qs_act%40bill%40regulation%40deemedreg_health+and+safety_resel_25_h&p=1&sr=1

Electricity (Safety) Regulations 2010

http://www.legislation.govt.nz/regulation/public/2010/0036/latest/DLM2763501.html?search=qs_act%40bill%40regulation%40deemedreg_health+and+safety_resel_25_h&p=1&sr=1

Gas (Safety and Measurement) Regulations 2010

http://www.legislation.govt.nz/regulation/public/2010/0076/latest/DLM2359501.html?search=qs_act%40bill%40regulation%40deemedreg_health+and+safety_resel_25_h&p=1&sr=1

Health and Safety at Work (Major Hazard Facilities) Regulations 2016

http://www.legislation.govt.nz/regulation/public/2016/0014/latest/DLM6243901.html?search=qs_act%40bill%40regulation%40deemedreg_health+and+safety_resel_25_h&p=1&sr=1

WORKSAFE NEW ZEALAND

WorkSafe New Zealand (WorkSafe) is the work health and safety regulator.

http://www.worksafe.govt.nz/worksafe/about

WorkSafe's functions include:

- Monitoring and enforcing compliance with work health and safety legislation
- Providing guidance, advice and information on work health and safety
- Fostering a co-operative and consultative relationship between the people who have health and safety duties and the persons to whom they owe those duties and their representatives
- Collecting, analysing and publishing statistics and other information relating to work health and safety
- Engaging with duty holders (e.g. businesses, undertakings and workers)
- Educating duty holders about their work health and safety responsibilities (eg through guidance)
- Enforcing health and safety law.

WHAT IS THE ROLE OF INSPECTORS?

The role of Inspectors is to ensure that duty holders comply with health and safety law. They do this by:

- Providing information and education
- Assessing workplaces
- Investigating incidents
- Enforcing health and safety law
- Advise businesses, officers, workers and others at workplaces of their responsibilities and rights under HSWA and the regulations
- Provide guidance material on HSWA and the regulations.

All Inspectors carry an identity card.

COMPLIANCE AND ENFORCEMENT MEASURES

If an Inspector reasonably believes that HSWA or the regulations have been breached or there is an immediate risk to health and safety, there are a range of measures they can use to ensure the unsafe situation is remedied. In addition, where HSWA or the regulations have been breached Inspectors may consider issuing notices (e.g. improvement notices, prohibition notices) or the regulator may take prosecution action.

Under certain circumstances, instead of taking enforcement action, WorkSafe Inspectors may provide directive advice (e.g. directive letters or verbal directions). Letters and verbal directions are recorded by WorkSafe and may be referred to in the future if a similar breach occurs.

SECTION 3

FRAMEWORK FOR HEALTH AND SAFETY MANAGEMENT

3 FRAMEWORK FOR HEALTH AND SAFETY MANAGEMENT

HEALTH AND SAFETY MANAGEMENT FRAMEWORK

This section of the guidelines provides information and tools to establish and sustain management processes and activities that will establish a robust framework to:

- ensure due diligence and assurance obligations are met and able to be demonstrated
- develop and track initiatives and interventions to address specific health and safety areas of concern.

The development of a strategic management group, in line with the model outlined in this section enables organisations to develop a strong visible and demonstrable leadership culture that will support other, more operationally focused controls.

Worksafe New Zealand have developed a number of papers relating to these obligations that may be of value for further information:

GOOD GOVERNANCE FOR DIRECTORS

http://www.worksafe.govt.nz/worksafe/information-guidance/all-guidance-items/hswa-good-practice-guides/health-and-safety-guide-good-governance-for-directors/directors-guidelines-on-their-responsibilities

HEALTH AND SAFETY LEADERSHIP GUIDE

http://www.worksafe.govt.nz/worksafe/information-guidance/all-guidance-items/hswa-fact-sheets/leadership-guide-smes

The figure shows the H&S framework outlined in Section 3.

Governance & Leadership	Roles and Responsibilities, Training and Competency	Contractor and Supply Chain Health and Safety Management	Asset Design and Decommissioning	Hazard Identification, Risk Assessment and Control	Communication & Consultation	Health & Safety Reporting	Emergency Response Plans

3.1 GOVERNANCE AND LEADERSHIP

Successful health and safety outcomes require a robust and demonstrable governance process to be established. This involves the senior decision makers:

- Developing knowledge and understanding of the organisation's hazards and associated risks.
- Understanding what controls are in place and how they relate to the hierarchy of control.
- Reviewing performance reports, incident data and industry developments to understand the ongoing effectiveness of controls and the availability of new or more effective risk control methods.

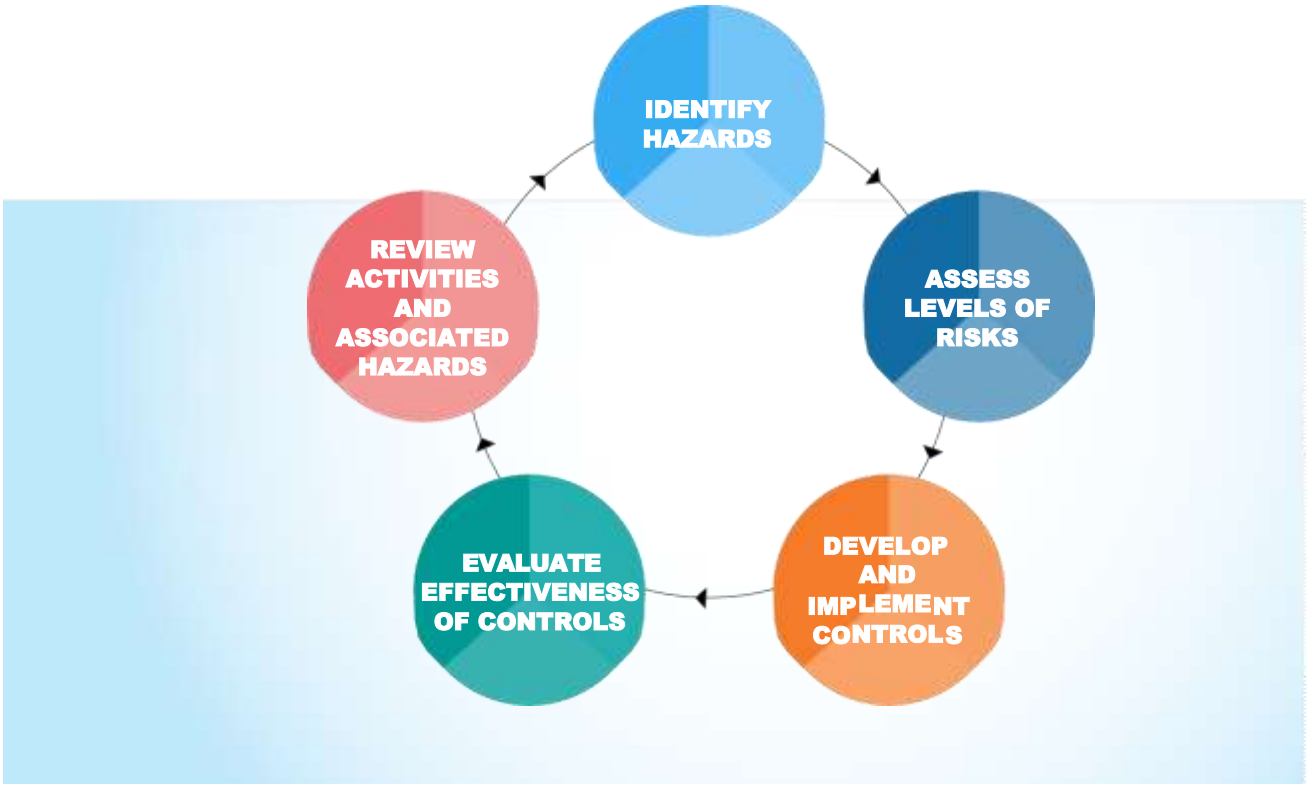
Senior managers and people leaders should seek to drive a strong and engaged culture by demonstrating commitment to health and safety. This can be achieved by:

- Ensuring health and safety responsibilities are developed into position descriptions and performance reviews for management and leadership roles.
- Making adequate resources available to meet the requirements of industry health and safety standards and requirements.
- Actively participating in health and safety activities such as:
  - Inspections and audits
  - Worker consultation processes and meetings
  - Reviewing incident reports and investigations
  - Inductions and training events
  - Industry health and safety groups and conferences.

Information and guidance for promoting effective health and safety leadership can be found in the Safe Work Australia publication developed by Barry Sherriff (Norton Rose) for Safe Work Australia. The document may be obtained from the link below:

http://www.safeworkaustralia.gov.au/sites/SWA/about/Publications/Documents/753/Promoting-effective-health-safety-leadership-March-2011-Barry-Sherriff.pdf

The Model procedures in this section contain procedures and pro-forma material for establishing a governance framework, annual health and safety plans, annual health and safety audits, and agreement of change.



ORGANISATIONAL HEALTH & SAFETY STRATEGIC GOVERNANCE PROCEDURE

PURPOSE

To provide an outline for the establishment and functions of a strategic governance group that provides oversight of resource allocation and initiatives to address health and safety risks.

STRATEGIC MANAGEMENT GROUP

ESTABLISHMENT OF GROUP

The organisation shall form a health and safety strategic management group that meets to review performance and industry information to ensure that current management program, initiatives and actions are addressing relevant and appropriate risks and requirements.

The group shall meet quarterly as a minimum. Where required additional meetings shall be held to discuss and address any emerging issues or urgent health and safety issues.

The group's primary purpose is to provide a formal structure and mechanism to ensure senior management are able to provide evidence of due diligence and oversight of the effectiveness of risk controls and resource allocation.

GROUP COMPOSITION

The group shall be comprised of senior management representatives including:

- CEO/MD (or equivalent)
- The General Manager (or equivalent) responsible for Health and Safety at senior management level
- Management representatives from field and operational functions
- Health and Safety Manager (or equivalent).

The group is a strategic decision making body and as such must have representatives who have delegation to approve initiatives and associated resources.

GROUP FUNCTIONS

INSIGHTS AND EVIDENCE FOR DECISION MAKING

To ensure that health and safety resources are applied in the most effective way, the group will need to identify the insights and evidence required for strategic direction and initiative planning.

These insights will be developed using data from the following sources:

- Trends developed from review of incident data, site audits, inspections and observations
- Regulatory and industry developments and good practice models
- Results and trends from health and safety culture or similar worker engagement measurement programs.

The Health & Safety Manager will provide the group with an initial "insight report" to enable this evidence based decision making to be undertaken and demonstrated. An example of a report is provided as attachment one (1) to this procedure.

HEALTH AND SAFETY INITIATIVE EFFECTIVENESS

The Group will assess the insights provided and review current initiatives to ensure that they are addressing the right aspects and that they are effective. Where required the health and safety manager will provide recommendations to develop additional initiatives to address significant or consistent themes emerging from the insight report. The Group will review the recommendations and either endorse or not, the recommended initiative. The initiative is then reviewed for on-going effectiveness, based on further analysis of relevant evidence through insight reports.

COMMUNICATION AND CONSULTATION

There is a strong link between the strategic management group and the health and safety consultative committee.

Outcomes from strategic group meetings should be recorded and communicated to the organisation. A summary of actions and decisions arising will be provided to consultative/HS committees.

Any actions and initiatives that the strategic group deems necessary for implementation or change, will be subsequently developed and consolidated. Any worker input will be progressed through the HS committee into the HS Action Plan.

INITIATIVE RECOMMENDATIONS

The health and safety manager, or the consultative committee shall provide any recommendations regarding strategic initiatives for approval or resource allocation by the strategic management group. A Model initiative recommendation template is provided in attachment two (2) of this procedure.

There may be instances where the strategic group has met and reviewed insights and determined that the organisation should develop additional, or modify existing programmes or initiatives, on the basis of information and evidence provided in the insight report. In such cases they will request the Health and Safety Manager to develop appropriate initiatives in conjunction with the consultative committee, in order to processes and provide recommendations for approval and resourcing via the strategic group. The strategic group may convene to approve such recommendations on an ad-hoc basis, in line with timescales provided. Timescales and urgency to develop initiatives will be based in the level of risk the situation requires.

RECORD KEEPING

Minutes and communication of meeting outcomes shall be retained for two years by the Health and Safety Manager.

ATTACHMENTS

- Attachment 1: Model Health and Safety Insight Report
- Attachment 2: Model Health and Safety Initiative Recommendation
- Attachment 3: Model Health and Safety Strategic Group Agenda

REFERENCES

WATER NEW ZEALAND PROCEDURES & GUIDELINES:

Health and Safety Procedures:

- Annual Health and Safety Management Plans
- Hazard Identification, Risk Assessment and Control
- Health and Safety Consultation and Communication

Health and Safety Guidelines:

- None

LEGISLATION, REGULATION AND STANDARDS

- Health and Safety at Work Act 2015
- Health and Safety at Work (Worker Engagement, Participation and Representation) Regulations 2016

MODEL GOVERNANCE INSIGHT REPORT ATTACHMENT 1

This report is developed by the Health and Safety Manager (or equivalent) and is produced from analysis of trends, incidents, worker feedback and other "business intelligence" sources. It is best seen as the opportunity to identify and present evidence and information to the strategic group to enable it to ensure that the organisation is implementing programs and initiatives to address the right things i.e. "What is the business telling us, do we know the things we should know?"

PART 1: PERFORMANCE DASHBOARD

This section of the report will contain information from the organisation's HS performance scorecard. The scorecard will provide information relating to trends that provide insight to performance of controls to enable development of suitable initiatives if required.

Graph 1: Lost Time Injury Frequency Rate and Total Recordable Injury Frequency Rate (rolling average YTD)

Graph 2: Zero Harm Days

Graph 3: Incident and Hazard Reporting Rates

Graph 4: Worker Engagement Results

Graph 5: Hazard and Incident Causal Trends

Add / developed as required / determined by the group.

PART 2 INSIGHT REPORT

INSIGHTS	**SUPPORTING INFORMATION & EVIDENCE** SOURCES OF INSIGHT
Summarise the insights here, typically limit to 3-4 key insights. Insight must relate to a strategic element, i.e. not to a specific incident. **Example:** There is a lack of consistent approaches and standards applied to monitoring of contractor activities	Provide information about what led to the insight, how it came about and what evidence supports it. **Example:** • Comments from last 2 contractor HS forums. • Review of recent incidents involving contractors. • Lack of defined contractor HS performance monitoring tools. • Results of site inspections and audits.

PART 3: HEALTH AND SAFETY AT WORK LEGISLATION AND REGULATIONS UPDATE & INDUSTRY INFORMATION AND DEVELOPMENTS

This section of the report should contain information obtained from sources such as:

- WorkSafe New Zealand
- Industry Associations
- Health and Safety Associations, publications and forums
- Outcomes and learnings from projects or activities the organisation is undertaking and/or involved in.

It is intended to alert the Strategic Group to obligations and opportunities is must be aware of and determine applicability and relevance to the organisation's activities.

Legislation and Regulation

Industry Incidents

Industry Development

MODEL HEALTH AND SAFETY INITIATIVE RECOMMENDATION ATTACHMENT 2

HEALTH & SAFETY INITIATIVE RECOMMENDATION
Initiative Details
Background to Insights
Name of initiative and proposed timeline (start and duration)
Description of key insights which led to recommendation(s) for action
Measures
Indication of “Return on Investment” from Initiative
Key measures and indicator(s) which define successful business outcome of initiative
Description of scale and area of expected returns on business investment
Addresses following strategic areas
Recommendation Prepared By Date
Identify the strategic areas addressed by this recommendation
Strategic Management Group Decision Decision Date
Brief description of decision reached (e.g. “Rejected because ...”, “Approved “or “Further Information Required to take decision”.

MODEL HEALTH AND SAFETY STRATEGIC GROUP AGENDA ATTACHMENT 3

HEALTH AND SAFETY STRATEGIC MANAGEMENT GROUP AGENDA	DATE

1. Reinforce purpose and function of Strategic Management Group : Chair (15 minutes)

Notes: Strategic, not to focus on the individual incidents/pet gripes. Weekly incident and corrective action registers give you that information. Purpose is to guide the HS programme, to agree initiatives and resource allocation, it is the issues that are strategic, not the solutions.

- Confirmation of Group's Purpose, Function & Obligation: All

2. Capability, Performance & Culture Inputs: Chair (30 minutes)

- Insight Report & Recent Events

Review the report, what it is telling us – strategically? Where are the correlations, the strong messages.

What else should we be worried about? If we have a serious incident do we have a state of knowledge that we should be acting on? Again not the stuff from incident reports individually, but the collective and/or systematic knowledge.

Are we happy with what we have in place – are we moving away from rolling the dice every day?

Can we say (honestly) that we are meeting our due diligence obligations?

3. Initiatives to Address Insights: Chair & All (30 - 45 minutes)

We will need to challenge any "I think" type statements, or "why don't we". This is important, because otherwise we can spend two hours just batting ideas around. If people are very solution focussed, then we need to align with an insight/problem and get them to own that in its entirety and bring to the group in recommendation form for agreement.

For initiatives and points highlighted in insight report, what are the core requirements, the challenges that we face? What problems do we need to solve to get improvements in key areas? We need to be thinking - what is the cause, not the symptom?

- Suggested Initiatives:
  - To be tabled
- Review of Initiatives Discussed – What (if anything) have we missed?

4. Other Topics for Discussion: (30 minutes)

5. Next Meeting

ANNUAL HEALTH AND SAFETY MANAGEMENT PLANS PROCEDURE

PURPOSE

To provide an outline for the establishment and review of an organisational wide annual health and safety management plan.

DEVELOPMENT OF ANNUAL HEALTH AND SAFETY MANAGEMENT PLAN

SCOPE OF PLAN

The management plan will apply to all operations and activities undertaken and will include the following elements:

- Scheduled Audit Activities
- Scheduled Workplace Inspections
- Consultation Activities and meetings
- Key Initiatives to address identified strategic improvement areas
- Review of documents and tools within the health and safety management system
- Health and Safety Training Activities
- Performance Reporting

DEVELOPMENT OF THE PLAN

The Health and Safety Manager will develop a draft annual plan in line with the organisation's business objectives planning cycle. Typically this is done at the end of the financial year, to ensure that budget allocations can be incorporated into the new financial cycle.

The plan is tabled at the Health and Safety Consultative Committee for input and review before being presented for endorsement at the Strategic Governance Group.

TRACKING AND REVIEWING THE PLAN

Progress on actions and activities contained within the management plan is reported to the Health and Safety Consultative Committee. The plan shall be updated monthly by the Health and Safety Manager to ensure it is relevant and reflective of the actions being completed or progressed.

Situations where programs or initiatives are not completed, or there are barriers to effective implementation will provide a source of insight for the Health and Safety Manager to report to the Health and Safety Governance Group. For example if training activities are continually cancelled due to non-attendance then the strategic group may determine an initiative to ensure workers attend required training. In other instances, where there is no significant trend or strategic element to the failure of completed activities then the Health and Safety Manager may develop actions and monitor for effectiveness.

UPDATE AND MODIFICATION OF ACTIONS AND INITIATIVES

Additional actions or initiatives may be developed and included into the plan, typically from the following sources:

- Organisation-wide corrective actions from incidents and audits.
- Initiatives endorsed by the Strategic Governance Group in response to information contained in insight reports.
- Direction or notice from WorkSafe NZ or other relevant third party.

The Health and Safety Manager shall ensure that additional activities are included in the plan and subsequently tracked and managed as described above.

RECORD KEEPING

Copies of Annual management plans shall be retained for two years by the Health and Safety Manager.

REFERENCES

WATER NEW ZEALAND PROCEDURES & GUIDELINES:

Health and Safety Procedures:

- Health and Safety Strategic Management Group
- Annual Health and Safety Audit Program
- Health and Safety Consultation and Communication Procedure
- Health and Safety Training Program

Health and Safety Guidelines:

- None

LEGISLATION, REGULATION AND STANDARDS

- Health and Safety at Work Act 2015
- Health and Safety at Work (Worker Engagement, Participation and Representation) Regulations 2016

ATTACHMENTS

Attachment 1: Annual Health and Safety Management Plan Template

ANNUAL HEALTH AND SAFETY MANAGEMENT PLANS ATTACHMENT 1

ELEMENT	ACTION OR INITIATIVE	RESPONSIBLE PERSON (S)	DATE FOR COMPLETION	STATUS
Audits				
Inspections				
Consultation Activities				
Strategic Initiatives				
Document / Tools Review				
Performance Reporting				
Reporting	Monthly reports are produced and available	Health and Safety Manager	May June July August September October November December January February March April	Completed Completed Completed Completed Completed Completed
Training				
Governance and Strategic Oversight				
	Quarterly HS Strategic Group Meetings are scheduled and completed	Health and Safety Manager and Group Members	June September December March	Completed Completed Scheduled Scheduled
Element				

ANNUAL HEALTH SAFETY AUDIT PROGRAM PROCEDURE

PURPOSE

To provide an outline for the establishment and management of health and safety audit programs. This includes audits of both management system content as well as operational activities.

DEVELOPMENT OF ANNUAL HEALTH AND SAFETY AUDIT SCHEDULE

SCOPE OF SCHEDULE

The Health and Safety Manager (or equivalent) shall develop an annual health and safety audit program, which shall be referenced in the audit section of the annual health and safety management plan. The audit shall apply to all work locations and activities undertaken by employees and contractors.

MANAGEMENT SYSTEM AUDITS

The Health and Safety Manager shall complete an audit of one of the twelve elements of the AS4801 Management System Standard per month as part of the annual audit program.

The order of elements can be scheduled/adapted to reflect any areas of concern, or recently implemented risk control measures. An audit tool to complete management system audits in line with AS 4801 is provided as attachment one (1) to this procedure.

Sample Monthly AS 4801 Element Audit Schedule

AS 4801 ELEMENT	MONTH
Leadership, commitment and accountability	July
Planning, objectives and targets	August
Legal compliance and system documentation	September
Training and competency	October
Consultation, communication and engagement	November
Risk management	December
Emergency preparedness and response	January
Incident management	February
Monitoring and measurement	March
Health and hygiene control	April
Management system audits, reviews and reporting	May

SITE AND WORKPLACE ACTIVITY AUDITS

The audit program shall contain scheduled audits of workplace activities. These can be scheduled on a monthly basis, to be completed across all relevant workplaces. The annual audit program should be reflective of critical hazards and controls. Relevant audits should be undertaken to assess the effective implementation of changed/modified risk control measures. The annual audit schedule shall include audit of any activities that have had significant corrective actions developed following incidents or previous audit non-conformances.

The audit tool provided as attachment two (2) to this procedure provides a framework to undertake site/workplace audits relating to the following activities:

General Site inspection

- Suitable for construction activities, or to conduct simple audits relating to the following aspects:
  - Facilities
  - Sub-Contractors
  - Housekeeping
  - PPE Use
  - Excavation & Trenches
  - Formwork & Falsework
  - Welding and Gas Cutting
  - Occupational health
  - Working at Height (includes ladders, EWP, scaffold)
  - Transport & Mobile Plant
  - Equipment and Machinery
  - Cranes and Lifting Equipment
  - Electrical Safety
  - General Traffic Management

CONTRACTOR AUDITS

The annual audit schedule shall include audits of contractor activities, in accordance with the Contractor HS Management Procedure. The audits shall include the following elements:

- Assessment of contractors' compliance to their own management plans and risk control information provided at time of engagement.
- Assessment of contractors' compliance to the organisation's health and safety expectations and requirements.

Pro-forma audit checklists and tools provided in this and other high risk activity procedures may be used to assess contractor performance and compliance.

CONDUCTING AUDITS

PREPARATION

The auditor must determine who will be involved in the audit and confirm the following with them:

- date, time and venue of audit;
- duration of audit;
- procedure/work instruction/area to be audited;
- scope of audit; and
- previous audit findings.

AUDIT PROCESS

Internal audits are not as formal as external audits. However, the same general process flow is followed. Depending on the scope and nature of the audit the meetings detailed may be adapted and be as formal or as informal as necessary.

Opening Meeting

The auditor briefly introduces themselves and reviews the scope of the audit. If there are a number of auditors and/or auditee involved, a closing meeting may be organised at this time. Any concerns raised by the auditee can be clarified during this meeting.

The Audit

The audit is conducted by a combination of interviews, examination of documents, work practices and arrangements. The objective of the audit is to verify compliance with the relevant procedure, work instruction, regulatory or any other audit requirements.

Audit observations and other comments are made on the audit checklist. Any non-compliances or deficiencies identified during the audit are recorded in the checklist and raised as actions in the facilities corrective action system. Actions should be discussed with the relevant person before they are assigned, to agree due dates and avoid any misinterpretation.

Closing Meeting

A brief meeting may be held by the auditor(s) with the auditee(s) to present the audit observations and non-compliances and allow for final discussion before the audit findings are finalised.

TRAINING AND COMPETENCY OF PEOPLE UNDERTAKING AUDITS

Persons conducting audits should be aware of how to perform an effective audit. This includes:

- planning and preparing for the audit;
- asking questions and obtaining evidence;
- confirming policies and objectives;
- highlighting corrective and preventive actions;
- exchanging ideas for improvement;
- recording and reporting the audit.

New auditors can be inducted through an internal training session run by an experienced auditor (e.g. the Health and Safety Manager) and should have an experienced auditor accompany them during their first audit(s). The Health and Safety Manager maintains a list of available internal auditors.

Where possible, auditors should be chosen from different areas and levels of the organisation to enable exchange of ideas and unbiased views of different areas/procedures.

NON-CONFORMANCES AND CORRECTIVE ACTIONS

Where non-conformances/improvement opportunities are found during the audit there may be opportunity to develop and implement correctives actions at the time of the audit. For example to remove surcharge from the side of an excavation. Such activities shall be recorded on the audit report and/or checklist and provided to the Health and Safety Manager.

Where non-conformances present a significant hazard to workers, the auditor shall, in conjunction with the Health and Safety Manager and relevant operational managers ensure work is stopped until non-conformances are implemented.

Corrective actions arising from the audits shall be recorded.

ATTACHMENTS

Attachment 1: Model AS 4801 Health and Safety management System Audit Tool

Attachment 2: Health and Safety Site Audit Tool

REFERENCES

WATER NEW ZEALAND PROCEDURES & GUIDELINES:

Health and Safety Procedures:

- Health and Safety Strategic Management Group Procedure
- High Risk Activity Procedures

Health and Safety Guidelines:

- None

LEGISLATION, REGULATION AND STANDARDS

- Health and Safety at Work Act 2015
- Health and Safety at Work (Worker Engagement, Participation and Representation) Regulations 2016
- AS 4801 Occupational Health and Safety Management Systems
- ISO 45001 Health and Safety Management Systems

AS 4801 HEALTH AND SAFETY MANAGEMENT SYSTEM AUDIT TOOL ATTACHMENT 1

ASSESSMENT AND RATING METHODOLOGY

This report provides an overview of the health and safety management system specifying whether the system conforms to the objectives of the standard. Should there be an element that does not conform; the degree of non-compliance must be stated.

For a more in depth review, the identification of shortcomings are presented within the "Comments" section of completed audit. It is intended that this information will assist the organisation in the continuous improvement of its health and safety system.

AS 4801 OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT SYSTEMS AUDIT AS 4801 OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT SYSTEMS AUDIT

OHS POLICY	AS/NZS 4801:2001	RATING
Does the organisation have an Occupational Health and Safety Policy? Does the OHS Policy comply to the following: • appropriate to the nature and scale of the organisation's OHS risks; • demonstrates a commitment to establish measurable objectives and targets to ensure continued improvement aimed at eliminating work-related injury and illness; • includes a commitment to comply with relevant OHS legislation and other requirements to which the organisation subscribes; • documented, implemented, communicated to all employees and maintained; • accessible to all interested parties; and • reviewed periodically.	4.2	
Comments:		

PLANNING IDENTIFICATION OF HAZARDS, ASSESSMENT AND CONTROL OF RISKS	AS/NZS 4801:2001	RATING
• Has the organisation established, implemented and maintained documented procedures for hazard identification, hazard/risk assessment and control of hazards/ risks of activities, products and services over which an organisation has control or influence, including activities, products or services of contractors and suppliers? • Has the organisation developed its methodology for hazard identification, risk assessment and control of risks, based on its operational experience and its commitment to eliminate workplace illness and injury? The methodology shall be kept up-to-date.	4.3.1	
Comments:		

LEGAL AND OTHER REQUIREMENTS	AS/NZS 4801:2001	RATING
• Has the organisation established, implemented and maintained procedures to identify and have access to all legal and other requirements that are directly applicable to the OHS issues related to its activities, products or services, including relevant relationships with contractors or suppliers? • Has the organisation communicated relevant legal and other requirements to its employees?	4.3.2	

Comments:

OBJECTIVES AND TARGETS	AS/NZS 4801:2001	RATING
• Has the organisation has established implemented and maintained documented OHS objectives and targets, at each relevant function and level within the organisation? • When establishing and reviewing its objectives, the organisation must consider its legal and other requirements, its hazards and risks, its technological options, its operational and business requirements, and the views of interested parties. The objectives and targets shall be consistent with the OHS policy, including the commitment to measuring and improving OHS performance.	4.3.3	

Comments:

OHS MANAGEMENT PLANS	AS/NZS 4801:2001	RATING
Have OHS management plans been established and maintained that include the following? • Plans for achieving OHS objectives and targets; • Designation of responsibility for objectives and targets at relevant functions and levels of the organisation; and • The means and time frame by which objectives and targets are to be achieved.	4.3.4	
Comments:		

RESOURCES	AS/NZS 4801:2001	RATING
Have management identified and provided resources to implement, maintain and improve the Health and Safety Management System (HSMS), as required? • Resources include human resources and specialised skills, technology and financial resources.	4.4.1	
Comments:		

RESPONSIBILITY AND ACCOUNTABILITY	AS/NZS 4801:2001	RATING
Has the organisation defined, documented and communicated the areas of accountability and responsibility (including those imposed by OHS legislation) of all personnel involved in the HSMS's operation? Where contractors are involved, these areas of accountability and responsibility shall be clarified with respect to those contractors. The organisation's top management shall appoint a specific management representative(s) who, irrespective of other responsibilities, shall have defined roles, responsibilities and authority for: • ensuring that the HSMS requirements are established, implemented and maintained in accordance with this Standard; • reporting on the performance of the HSMS to top management for review and as a basis for improvement of the HSMS.	4.4.1	
Comments:		

TRAINING AND COMPETENCY	AS/NZS 4801:2001	RATING
Has the organistion, in consultation with employees, identified training needs in relation to performing work activities competently, including OHS training? Procedures are in place to ensure that OHS competencies are developed and maintained. Personnel are assessed as competent, on the basis of skills achieved through education, training or experience, to perform assigned tasks taking into account the OHS obligations, hazards and risks associated with the work activities. Procedures are developed for providing OHS training. These procedures take into account: • The characteristics and composition of the workforce which impact on occupational health and safety management • Responsibilities, hazards and risks • The organisation ensures that all personnel (including contractors and visitors) have undertaken training appropriate to the identified needs. • Training shall be carried out by persons with appropriate knowledge, skills and experience in OHS and training. Note: Personnel should be taken to include employees, contractors, non-employees such as unpaid work-experience staff and visitors.	4.3.3	
Comments:		

CONSULTATION	AS/NZS 4801:2001	RATING
Are there documented procedures, agreed to by the employees, for employee involvement and consultation in OHS issues? Are employee involvement and consultation arrangements documented and made available to interested parties? Are employees: • Involved in the development of policies and procedures to manage risks? • Consulted where there are any changes that affect workplace health and safety? • Represented on health and safety matters? • Informed of who their employee OHS representative(s) is/are? • Aware of whom their OHS representative and management representatives are?	4.4.3	
Comments:		

DOCUMENTATION	AS/NZS 4801:2001	RATING
Has the organisation established, implemented and maintained the following information? • Describe the core elements of the management system and their interactions; • Provide direction to related documentation.	4.4.5	
Comments:		

DOCUMENTATION AND DATA CONTROL	AS/NZS 4801:2001	RATING
Has the organisation established, implemented and maintained procedures for controlling all relevant documents and data required by this standard to ensure that: • they can be readily located; • periodically reviewed; • current versions are accessible at all locations; • obsolete documents and data are promptly removed; and • archived documents and data are retained for legal or knowledge preservation.	4.4.5	
Comments:		

HAZARD IDENTIFICATION, RISK ASSESSMENT AND CONTROL OF RISKS	AS/NZS 4801:2001	RATING
The organisation has established, implemented and maintained documented procedures to ensure that the following are conducted: • hazard identification; • hazard/risk assessment; • control of hazards/risks; and then • evaluation of steps a – c.	4.3.6	
Comments:		

HAZARD IDENTIFICATION	AS/NZS 4801:2001	RATING
When identifying hazards, has the organisation taken into account; • the situation or events or combination of circumstances that has the potential to give rise to injury or illness; • the nature of potential injury or illness relevant to the hazard; • past injuries, incidents and illnesses; • Further consideration has been given to: ~ work organisation; ~ work design; ~ work systems; ~ the purchase of goods and services; ~ hazard associated with contractual arrangements. • The inspection, maintenance, testing repair and replacement of plant and equipment.	4.4.6	
Comments:		

RISK ASSESSMENT	AS/NZS 4801:2001	RATING
Has the organisations hazards/risks been assessed and have control priorities been assigned, based on the established level of risk.	4.4.6	
Comments:		

CONTROL OF RISKS	AS/NZS 4801:2001	RATING
Have the hazards identified through the assessment process as requiring control, controlled through the hierarchy of controls – elimination being the first control of consideration? Note. Elimination, Substitution, Engineering, Administration and PPE.	4.4.6	
Comments:		

EVALUATION	AS/NZS 4801:2001	RATING
Is there a process of evaluation of hazard/risk identification, assessment and control?	4.4.6	
Comments:		

EMERGENCY PREPAREDNESS AND RESPONSE	AS/NZS 4801:2001	RATING
Has the organisation identified potential emergency situations and developed, implemented and practiced emergency preparedness and response procedures?	4.4.7	
Comments:		

MONITORING AND MEASUREMENT	AS/NZS 4801:2001	RATING
Has the organisation established, implemented and maintained documented procedures to monitor and measure on a regular basis the activities that may cause injury or illness, using the appropriate equipment for monitoring and measuring that is calibrated, maintained and stored appropriately? Has equipment for monitoring and measuring health and safety risks been identified, calibrated, maintained and stored as necessary? Has the organisation established monitoring and measuring procedures for: • Performance effectiveness of relevant controls conformance with organisations targets and objectives; and • Compliance with relevant OHS legislation.	4.5.1	
Comments:		

HEALTH SURVEILLANCE	AS/NZS 4801:2001	RATING
Has the organisation identified those situations where employee health surveillance should occur? Is the health of employees exposed to specific hazards monitored, where required by legislation?	4.5.1	
Comments:		

INCIDENT INVESTIGATION, CORRECTIVE AND PREVENTATIVE ACTION	AS/NZS 4801:2001	RATING
Has the organisation implemented and recorded any changes in the HSMS procedures resulting from incident investigations and corrective and preventative actions for: • responding to and taking action to minimise any harm caused from incidents; • investigation and responding to system failures; and • initiating and completing appropriate corrective and preventative action.	4.5.2-3	
Comments:		

MANAGEMENT REVIEW	AS/NZS 4801:2001	RATING
Do the organisation's senior management perform management reviews of the HSMS, to ensure its suitability, adequacy and effectiveness? Does the management review process ensure that the necessary information is collected to allow management to carry out the above evaluation?	4.6	

Comments:

WORK PLACE HEALTH AND SAFETY INSPECTION TOOL ATTACHMENT 2

Contract Name:						Contract #:			
Contractor:				Auditor:		Location:			
Date:		Time Arrive:		Weather:		Time Leave:		Visit # for day:	
Site Supervisor:		H&S Supervisor:		Site Activities:					

SYSTEMS & FACILITIES

When completing the workplace inspection examples of work practices should be assessed to determine the level of compliance with inspection criteria. The assessment should be made based on evidence provided or seen during the inspection. Where required futher clarification may be sort from workers involved in the workplace being inspected or furthur review of relevent documentation or records.

ADMINISTRATION	INSPECTION FINDINGS
Have all previous Non-Conformances & Recommended Improvements been rectified?	Full compliance - Good Standard
Is there a site specific safety plan in place?	Full compliance - Good Standard
Are emergency procedures in place?	Full compliance - Good Standard
Has a site evacuation plan been implemented?	Full compliance - Good Standard
Is there evidence that a toolbox talk has been held within the last 14 days? (Site staff)	Full compliance - Good Standard
Is there a permit to work system in place (close proximity, Confined Spaces etc.)	Full compliance - Good Standard
Are regular site safety meetings held and minuted?	Full compliance - Good Standard
Are regular safety inspections being carried out and documented? (Snr management)	Full compliance - Good Standard
Has Notifiable work been notified to WorkSafe NZ?	Full compliance - Good Standard
Is there a site specific induction system in place?	Full compliance - Good Standard
Is there a Site Hazard Register in Place?	Full compliance - Good Standard
Is there a suitable Hazard Board with current hazards recorded and regularly updated?	Full compliance - Good Standard
Is there adequate site signage? (Site office, Assembly point, First aid etc.)	Full compliance - Good Standard
	100%

Are Site-specific inductions being carried out for all site staff? (Section 3)	Non-Compliant - Needs Attention
Is the Subcontractors Site Specific Safety Plan in place and agreed?	Non-Compliant - Needs Attention
Is Subcontractor hazard ID and Control being carried out? (Section 5)	Non-Compliant - Needs Attention
Is Task Analysis done for all significant works? (Section 5)	Non-Compliant - Needs Attention
Has emergency planning for task Analysis been completed for all significant works? (Section 5)	Non-Compliant - Needs Attention
Is there a system in place for employee participation in safety issues e.g. toolbox talks?	Non-Compliant - Needs Attention
Are Subcontractor Self Inspections being carried out?	Non-Compliant - Needs Attention
Are Subcontractors completing an Incident register?	Non-Compliant - Needs Attention
Do Subcontractors have evidence of competency training for their employees?	Non-Compliant - Needs Attention
Have subcontractors notified WorkSafe NZ of notifiable work?	Non-Compliant - Needs Attention
	0%

ACCIDENT/INCIDENT INVESTIGATION AND REPORTING	INSPECTION FINDINGS
Is there an accident/incident register?	Not Applicable
Is there a detailed description of what happened?	Not Applicable
Has the actual (root) cause of the accident/incident been established?	Not Applicable
Has the future preventative action been agreed?	Not Applicable
Has the preventative action been completed and the report closed out?	Not Applicable
	Not Applicable

GENERAL SAFETY

HOUSEKEEPING	INSPECTION FINDINGS
Work areas clean & tidy	Full compliance - Good Standard
Access ways clear (including stairways)	Full compliance - Good Standard
Materials stacked safely	Full compliance - Good Standard
Rubbish bins provided	Full compliance - Good Standard
Combustible materials stowed	Full compliance - Good Standard
Hazardous materials controlled	Full compliance - Good Standard
All Vertical Reinforcing Steel Bars Capped	Full compliance - Good Standard
Enclosed material waste chutes	Full compliance - Good Standard
Nails in timber made safe	Full compliance - Good Standard
Slips & trips controlled	Full compliance - Good Standard
Adequate lighting	Full compliance - Good Standard
Public protection	Full compliance - Good Standard
Is Asbestos removal in accordance with WorkSafe NZ Guidelines?	Full compliance - Good Standard
	100%

PERSONAL PROTECTIVE EQUIPMENT (PPE)	INSPECTION FINDINGS
Hard hats worn	Partial Compliance
Safety glasses/goggles worn	Partial Compliance
Respirators or masks worn	Partial Compliance
Hearing Protection worn	Partial Compliance
Protective clothing worn	Partial Compliance
High Visibility clothing worn	Partial Compliance
Adequate safety footwear worn	Partial Compliance
Fall arrest harness worn	Partial Compliance
	50%

EXCAVATIONS AND TRENCHES	INSPECTION FINDINGS
Underground services located before digging	Non-Compliant - Needs Attention
Shield Protection or sides battered for trench excavations >1.5m deep or in friable ground	Non-Compliant - Needs Attention
Protection Barriers provided where required for deep excavations	Non-Compliant - Needs Attention
Excavated material stock piled minimum of excavation depth plus one metre from edge of trench	Non-Compliant - Needs Attention
Safe access to excavations provided	Non-Compliant - Needs Attention
If required, has the appropriate permit to dig been issued	Non-Compliant - Needs Attention
Machines working safe distance from edge of excavation	Non-Compliant - Needs Attention
	0%

FALSEWORK/FORMWORK	INSPECTION FINDINGS
Design & supports for shuttering checked	Not Applicable
Formwork checked with plan before pour	Not Applicable
Adequate bearing for all supports	Not Applicable
Support frames/props plumb	Not Applicable
Props tied laterally	Not Applicable
Correct pins in props	Not Applicable
Forkheads for bearer support	Not Applicable
Bearers wedged centrally in forkhead	Not Applicable
Screw jacks within max extension allowed	Not Applicable
Attached scaffold platforms supported	Not Applicable
Attached scaffold platforms have handrails	Not Applicable
	Not Applicable

WELDING AND GAS CUTTING	INSPECTION FINDINGS
Are gas bottles secured in use and/or stored correctly?	Full compliance - Good Standard
Flash back protectors fitted to regulator end and on both oxy & fuel gas bottles	Full compliance - Good Standard
Hot work procedures in place and work permit issued	Full compliance - Good Standard
Welding screens, signs, area underneath barricaded to prevent access	Full compliance - Good Standard
Fire Extinguisher nearby	Full compliance - Good Standard
	100%

HEALTH	INSPECTION FINDINGS
Hazardous substances identified (lead, asbestos, Silica)	Partial Compliance
MSD Sheets available on site	Partial Compliance
Air monitored i.e. confined spaces, Contaminated Ground	Partial Compliance
Confined space management plan in place incl. permit	Partial Compliance
Protection for excessive noise, dust and toxic contaminants including any necessary permits	Partial Compliance
	50%

WORK AT HEIGHT

HEIGHT - GENERAL	INSPECTION FINDINGS
Are fall hazards controlled?	Non-Compliant - Needs Attention
Guardrails in place where required	Non-Compliant - Needs Attention
Toeboards in place where required	Non-Compliant - Needs Attention
Holes & floor penetrations covered or barricaded	Non-Compliant - Needs Attention
Anchors/static lines designed & installed by a competent person	Non-Compliant - Needs Attention
Harnesses used and fitted correctly	Non-Compliant - Needs Attention
Rescue plan in place	Non-Compliant - Needs Attention
	0%

LADDERS

STANDARD LADDERS	INSPECTION FINDINGS
Suitable for the job i.e. commercial/industrial grade not domestic	Not Applicable
Set up on firm level ground	Not Applicable
Ladder secured (base and/or top)	Not Applicable
At correct angle - 4 up to 1 out	Not Applicable
Are ladders in good condition	Not Applicable
Projects 1m above step off point	Not Applicable
	Not Applicable

STEP LADDERS	INSPECTION FINDINGS
Suitable for the job i.e. commercial/industrial grade not domestic	Full compliance - Good Standard
Step ladder lock bars in place	Full compliance - Good Standard
Set up on firm level ground	Full compliance - Good Standard
Are ladders in good condition	Full compliance - Good Standard
Operator not working higher than third step down	Full compliance - Good Standard
	100%

ALL SCAFFOLD

STANDING SCAFFOLD	INSPECTION FINDINGS
Suitable for the job	Partial Compliance
Erected by certified scaffolder (required if over 5 meters high)	Partial Compliance
Scaf-tag/acu-log scaffold register up to date	Partial Compliance
Access to Scaffold	Partial Compliance
Ladders on scaffold suitable - 4 up to 1 out, secured, 1m past step off (or suitable hand holds)	Partial Compliance
Guardrails between 0.9 & 1.1m	Partial Compliance
Intermediate rail in place	Partial Compliance
Gap- platform to workface no more than 300mm	Partial Compliance
Gap- platform greater than 300mm are guardrails or inside plank fitted	Partial Compliance
Platforms adequate. 3 planks minimum. Butted and secured	Partial Compliance
Debris Netting in place	Partial Compliance
Toeboard in place & 225mm high min	Partial Compliance
Adequate base plates & sole plates	Partial Compliance
	50%

MOBILE SCAFFOLD	INSPECTION FINDINGS
Suitable for the job	Non-Compliant - Needs Attention
Set up on firm ground	Non-Compliant - Needs Attention
Wheels locked	Non-Compliant - Needs Attention
Wheels turned out (increased stability)	Non-Compliant - Needs Attention
Deck fully decked & secured	Non-Compliant - Needs Attention
Guardrails between 0.9 & 1.1m	Non-Compliant - Needs Attention
Toeboard in place where scaffold is over 3m high	Non-Compliant - Needs Attention
Access from within the scaffold frame	Non-Compliant - Needs Attention
No higher than 3x the width at the base	Non-Compliant - Needs Attention
If h=> than 3xw are outriggers fitted	Non-Compliant - Needs Attention
Narrow Scaffolds (1m or less) If height is greater than or equal to 3x the width are outriggers fitted	Non-Compliant - Needs Attention
Scaf-tag / acu-log in place & up to date where required	Non-Compliant - Needs Attention
	0%

TEMPORARY RIGGED ON SITE SCAFFOLDS	INSPECTION FINDINGS
Stable & secure support structure	Not Applicable
Platform minimum width of 675mm (3 Planks)	Not Applicable
Guardrails provided where required	Not Applicable
Toeboard in place if over 3m high	Not Applicable
	Not Applicable

ELEVATED WORK PLATFORMS (EWP)	INSPECTION FINDINGS
Set up on level ground support legs out	Full compliance - Good Standard
Inspected & tested within last 6 months	Full compliance - Good Standard
At least 4m from power lines	Full compliance - Good Standard
Fall arrest harnesses being worn (n/a to scissor hoists)	Full compliance - Good Standard
Harness lanyard just long enough	Full compliance - Good Standard
	100%

TOOLS AND PLANT

TRANSPORT & MOBILE MECHANICAL PLANT	INSPECTION FINDINGS
Drivers/operators properly trained	Partial Compliance
Vehicles securely loaded	Partial Compliance
Reversing vehicles are controlled	Partial Compliance
Vehicle warning signs displayed	Partial Compliance
Fitted with operator protective structures	Partial Compliance
Protective structure in good repair	Partial Compliance
Seat belt effective and in good repair	Partial Compliance
	50%

EQUIPMENT & MACHINERY & TOOLS	INSPECTION FINDINGS
All machinery set up properly and secured in place	Non-Compliant - Needs Attention
Tool guards secured & in good order	Non-Compliant - Needs Attention
Are gears, chain drives and shafts and moving parts guarded?	Non-Compliant - Needs Attention
Has all plant been inspected within the last 12 months?	Non-Compliant - Needs Attention
Compressed air - matched & secured connections	Non-Compliant - Needs Attention
	0%

CRANES & LIFTING APPLIANCES	INSPECTION FINDINGS
Is there a current test certificate?	Not Applicable
Are weekly inspections carried out?	Not Applicable
Has lift plan been sighted by auditor? (crane work only)	Not Applicable
Are the crane slings certified?	Not Applicable
Are the crane operator & dogman trained appropriately?	Not Applicable
	Not Applicable

POWDER-ACTUATED TOOLS	INSPECTION FINDINGS
Operator certified	Full compliance - Good Standard
Tool has 6 monthly certificate	Full compliance - Good Standard
Tool & cartridges securely stored at all times when not in use	Full compliance - Good Standard
3 second verbal warning given to workers in the vicinity prior to use	Full compliance - Good Standard
Isolation & signage in accordance with Approved Code of Practice (ACOP)	Full compliance - Good Standard
Hearing & eye protection worn	Full compliance - Good Standard
	100%

ELECTRICAL	INSPECTION FINDINGS
Are electrical leads and tools free from defects and damage?	Partial Compliance
Are Tools and leads tagged 3 monthly?	Partial Compliance
Are lifeguards tagged 3 monthly?	Partial Compliance
Use of portable gen sets with internal RCD	Partial Compliance
Are leads industrial rated?	Partial Compliance
Does temporary festoon lighting have moulded in line sockets?	Partial Compliance
Commercial splitter boxes & double adaptors only in use with RCD	Partial Compliance
RCD protection used with internal power points	Partial Compliance
Leads clear of water and protected from traffic?	Partial Compliance
	50%

TRAFFIC MANAGEMENT

TRAFFIC MANAGEMENT	INSPECTION FINDINGS
Is there a TMP for this site?	Full compliance - Good Standard
Is there a copy of the TMP on site?	Partial Compliance
Is traffic signage as per the TMP?	Non-Compliant - Needs Attention
Is the site set up as per the TMP?	Not Applicable
Is there a qualified Traffic Controller on site?	Full compliance - Good Standard
	63%

OVERALL PERFORMANCE 50%

AUDIT SUMMARY

☐ No observed deficiencies

☐ Non-compliant: Non-compliant items identified above need to be improved/corrected by the Contractor (item ratings of 0 or 1)

☐ Discussed with Contractor. Satisfied the hazard(s) will be rectified immediately by Contractor

☐ SUSPENSION OF WORK until the hazard(s) identified above are corrected

Auditor..... Company.....

Contractor..... Auditor extra visit.....

This form issued without prejudice and for record purposes only and may be subject to review by the Engineer at any time

(to confirm receipt) *(approval to proceed)*

HEALTH AND SAFETY MANAGEMENT OF CHANGE PROCEDURE

PURPOSE

To provide guidance and information to the organisation to identify and control health and safety risks associated with changes to:

- Plant and equipment
- Structures and buildings
- Processes and procedures
- Organisational structure and activities.

GENERAL REQUIREMENTS

Proposed changes to equipment, structures, buildings, procedures, processes and organisational structure which have the potential to introduce new HS risks, or increase existing HS risks shall be identified, documented and appropriate controls implemented.

CHANGE NOTIFICATION

The manager responsible for initiating the proposed modification or change completes Part A of the Proposed Change Form (attachment 1 to this procedure) which details:

- The nature of the change
- What plant or equipment may be affected
- The reason for the change

The proposed change form is distributed to the operations, maintenance and health and safety managers (or equivalent) as well as any other relevant technical experts for information and input.

HEALTH AND SAFETY ASSESSMENT

The health and safety assessment contained in Part B of the Proposed Change Form shall be completed by the operations, maintenance or health and safety manager for changes or modifications; to identify and detail any specific health and safety impacts that could result from the proposed change.

These would include aspects relating to:

- Plant and equipment
- Operating conditions
- Material and waste
- Organisational issues.

The assessment is reviewed by operational and maintenance managers and, if satisfied that all relevant health and safety issues have been identified and controls detailed, the change notification is signed off to proceed to other approvals and agreement to continue.

If deemed necessary by the Operational or Health and Safety Manager further specific hazard studies and risk assessments shall be undertaken to detail the level of risks and identify required controls. These hazard studies may include:

- HAZOP studies
- Noise exposure assessments
- Ergonomic and Manual Handling Assessments
- Plant Risk Assessment Handling Risk Assessment.

WORKER ENGAGEMENT AND PARTICIPATION

CONSULTATION AND COMMUNICATION

The organisation shall ensure that workers (including contractors if necessary) whose health and safety is likely to be effected by the proposed change:

- Are involved and represented in initial risk assessment process
- Have opportunity to input to additional risk control measures
- Are involved and represented in any detailed subsequent risk assessments or hazard studies.

Worker consultation and participation shall be conducted in accordance with guidelines provided in the Health and Safety Consultation and Communication Procedure.

IMPLEMENTATION OF CHANGE

ADDITIONAL RISK ASSESSMENT AND STUDIES

If additional hazard studies and risk assessment have been completed, the required controls listed on Part B of the Proposed Change Form must be updated.

STATUTORY APPROVALS

Prior to implementation of the change, the organisation must ensure that any required statutory approvals, such as building consents or plant registration, have been obtained.

IMPLEMENTATION

Following completion of any specific risk assessments, the operations or maintenance manager ensures that the changes are implemented in accordance with details on the Proposed Change Form.

A detailed implementation plan, including on-going worker engagement and consultation activities shall be prepared. Where relevant, identified actions to develop controls and other activities may be transferred to existing health and safety (or other) action plans. The implementation plan shall include elements to ensure that required controls have been implemented at the time of implementation.

If formal training is required to support implementation, this shall be arranged in accordance with Water New Zealand Model health and safety training procedure.

Any changes to plant or structures shall ensure that the relevant drawings and asset information and registers are updated.

POST IMPLEMENTATION REVIEW

A review shall be arranged within two months of implementation by the operations or maintenance manager to ensure:

- The new arrangements are operating in accordance with their design
- Exposure to any hazards are controlled in accordance with methods detailed in the risk assessment and implementation phases
- That workers have the opportunity to provide feedback and ideas for on-going improvement to introduced control measures.

RECORD KEEPING

Records of risk assessments, worker engagement and consultation processes shall be retained for two years.

ATTACHMENTS

Attachment 1 - Health and Safety Proposed Change Form (Part A & B)

REFERENCES

WATER NEW ZEALAND PROCEDURES & GUIDELINES:

Health and Safety Procedures:

- Hazard Identification, Risk Assessment and Control Procedure
- Job safety Analysis
- Health and Safety Training Program

Health and Safety Guidelines:

- None Applicable.

LEGISLATION, REGULATION AND STANDARDS

- Health and Safety at Work Act 2015
- Health and Safety in Employment Regulations 1995
- AS 4801 Occupational health and safety systems

HEALTH AND SAFETY PROPOSED CHANGE FORM ATTACHMENT 1

PART A: PROPOSED CHANGE/MODIFICATION DETAILS

Modification Title:.....

Responsible Manager:..... Date: .....

Plant/Equipment Affected:.....

Work Area (s): .....

Modification Description (attach marked-up sketches and calculations, position descriptions, etc.):

Is the Change Temporary? Yes/No

Reason for Change:

Alternatives Considered:

Estimated Cost $ ..... Estimated Completion Date:.....

PART B PROPOSED CHANGE / MODIFICATION RISK ASSESSMENT

B.1 PLANT & EQUIPMENT

DOES THE PROPOSAL INTRODUCE OR ALTER	YES/NO		WHAT HAZARD IS PRESENT / HAS BEEN CREATED AND WHAT ACTIONS ARE RECOMMENDED AS CONTROLS?
	MANAGER	WORKER REP	
PLANT & EQUIPMENT DESIGN			
1. Loads on, or the strength of foundations, structures, pipework, plant or other equipment?			
2. Lifting equipment, loads and/or SWL?			
3. High/low pressure design limits?			
4. High/low temperature design limits?			
5. Noise sources and/or controls?			
6. Materials of construction or potential for corrosion?			
7. Connections to / demands on services (HV, LV, water, air, etc.)?			
8. Location and/or protection of services?			
9. Isolation & purging requirements & arrangements (electrical, process & mechanical isolation)?			
10. Access to hot or cold surfaces, pinch points, crush hazards, etc.?			
11. Confined spaces and/or tasks requiring entry?			
12. Separation of hazards & occupied areas?			
13. Equipment upstream or downstream of the changes?			
ACCESS			
14. Safe access for people, forklifts, vehicles & other equipment (roads, walkways, doorways, handrails, ladders, etc.)?			
15. Access to plant, equipment & controls (normal operation, maintenance, sampling and/or testing)?			
16. Trip hazards, obstacles and lighting?			
17. Scaffolding, handrails, barriers, etc.?			
18. Access for rescue/firefighting?			
ELECTRICAL HAZARDS			
19. Over-current/earth leakage protection requirements?			
20. Electrical equipment in Hazardous Areas?			
21. High Voltage equipment?			
22. Static electricity and/or lightning protection?			
INSTRUMENTATION & CONTROL			
23. Protective or control systems, including equipment for controlling, preventing or relieving pressure, temperature, flowrates, etc.?			
24. Programmable systems and/or control software?			
25. Gas detection equipment?			

B.2 PROCESS & OPERATING CONDITIONS

DOES THE PROPOSAL INTRODUCE OR ALTER	YES/NO		WHAT PROBLEM HAS BEEN CREATED AND WHAT ACTION IS RECOMMENDED TO MINIMISE IT ?
	MANAGER	WORKER REP	
PROCESS CONDITIONS			
1. Potential for over or under pressure in any part of the system (refer design limits)?			
2. Potential for temperature above or below design limits of any equipment (including control systems)?			
3. The level and/or weight of materials in equipment?			
4. The flow of materials, including potential for high, low and reverse flow?			
5. The composition of materials, including phases present (gas, liquid and/or solid)?			
6. Potential for adverse or runaway chemical reactions?			
7. Alter rates of corrosion or erosion?			
8. Process conditions for equipment upstream or downstream of the changes?			
OPERATING & MAINTENANCE METHODS			
9. Operating methods: • start up; • normal operation; • abnormal operation; • emergency operation; • process sampling and testing; • equipment inspection; • cleaning and purging; or • shut down?			
10. The types and operation of controls and instrumentation?			
11. Use of handtools and portable equipment?			
12. Maintenance requirements, frequencies, procedures and/ or required skills.			
INSPECTION & TESTING			
13. Equipment inspection, testing and periodic replacement frequencies and/or methods (trips & alarms)?			
14. Plant and equipment inspection logs and/or frequencies?			
15. Analytical procedures and/or process sampling?			
WORKPLACE HAZARDS			
16. Hazardous Manual Handling including strenuous lifting and repetitive tasks?			
17. Workplace exposure to chemical agents, dust, odour, radiation, noise, vibration, heat, cold, etc.?			
18. Workplace lighting?			
FIRES AND EMERGENCIES			
19. Fire detection and response systems?			
20. Means of escape and escape equipment?			
21. First aid facilities and/or requirements?			
22. Access to or the performance of firefighting/rescue/first aid equipment?			
23. Fire protection of cables, pipes, plant structures & equipment, escape routes or other features?			

B.3 MATERIALS & WASTES

DOES THE PROPOSAL INTRODUCE OR ALTER	YES/NO		WHAT HAZARD IS PRESENT / HAS BEEN CREATED AND WHAT ACTIONS ARE RECOMMENDED AS CONTROLS?
	MANAGER	WORKER REP	
MATERIAL HAZARDS			
1. Chemical hazards, including: • purchased chemicals; • waste constituents; • by-products?			
2. Product properties, or other safety directions?			
3. Requirements for bunding, secondary containment or surface sealing?			
4. Inventories of Dangerous Goods in buildings / bunded areas?			
5. Storage or handling of incompatible materials (including wastes)?			
6. The location or conditi on of Asbestos or Ceramic Mineral Fibres?			
7. Cooling towers, air handling systems or other potential sources of biological hazards?			
8. Radioactive substances or other sources of ionising radiation?			
9. Ventilation, PPE and other exposure controls?			
WORK AREA HAZARDS			
10. Areas in which flammable or combustible substances may be present, including from leaks?			
11. Areas in which combustible dusts or filings may be?			
12. Electrical equipment in Hazardous Areas?			
ENVIRONMENTAL EMISSIONS			
13. Potential for continuous or abnormal emissions of: • chemicals; • noise; • vibration; • odour; • dust; or • light?			
14. Sources of emissions and their discharge points?			
15. Sectors of the environment which receive emissions (air, water, land)?			
WASTES			
16. The quantity, composition, classification, storage, recycling, treatment or disposal of wastes?			
17. Waste treatment or discharge licence requirements?			
18. Waste storage, recycling, treatment / disposal contracts?			

B.4 ORGANISATIONAL ISSUES

DOES THE PROPOSAL INTRODUCE OR ALTER	YES/NO		WHAT HAZARD IS PRESENT / HAS BEEN CREATED AND WHAT ACTIONS ARE RECOMMENDED AS CONTROLS?
	MANAGER	WORKER REP	
1. The job functions performed by individuals?			
2. The number of people required to safely perform tasks and conduct safety inspections, plant logs, etc.?			
3. The level and availability of supervisory and other resources to verify satisfactory conduct of critical activities?			
4. Access to technical advice (including proposals for removal or re-location of positions)?			
5. Access to technical and other resources required to respond to abnormal situations & emergencies?			
6. Access to people required to authorise or review critical activities?			
7. Work hours and shift arrangements?			
8. Physical, emotional or intellectual work demands?			
9. Likelihood of critical errors (e.g. decision complexity, time to respond, access to information, "error proofing" of controls, etc.)?			
10. Likelihood of violation of procedures & accepted practices? (e.g. increased work pressures, reduced supervision, complexity of required procedures, etc.)?			
11. The competencies required to safely perform tasks?			
12. Selection criteria for new recruits and/or transfers?			
13. Communication between individuals (e.g. shift handover), workgroups and/or contractors?			
14. Vertical communication between workers and management?			
15. The rate of staff turnover or retention of critical staff (e.g. re-location or re-organisation of a facility)?			

HAZARD STUDY ACCEPTANCE

The hazard study associated with the proposed modification or change has identified the hazards and controls and the change may be implemented in line with controls identified in the hazard study.

POSITION	ACCEPTANCE OF HAZARD STUDY (NAME & SIGNATURE)
Operational Manager (or equivalent)	
Maintenance Manager (or equivalent)	
Health and Safety Manager (or equivalent)	
Workers Health and Safety Representative of effected work area,	

FURTHER HAZARDS STUDY REQUIRED

The hazard study has identified the following detailed hazard studies are completed to better inform the controls required to be implemented as part of implementation plan (Refer to Section 1.1.2 of Model Procedure).

HAZARD STUDIES REQUIRED

Detail Required Hazard Studies here:

- Hazard Study:
- Hazard Study:
- Hazard Study:
- Hazard Study:

POSITION	ACCEPTANCE OF FURTHER HAZARD STUDY RECOMMENDATION (NAME & SIGNATURE)
Operational Manager (or equivalent)	
Maintenance Manager (or equivalent)	
Health and Safety Manager (or equivalent)	
Workers Health and Safety Representative of effected work area	

3.2 ROLES AND RESPONSIBILITIES, TRAINING AND COMPETENCY

Both legislation and good organisational health and safety practice include responsibilities associated with functions and job roles within the organisation. These general responsibilities and activities are summarised below. The risk management processes described in these guidelines include details of health and safety responsibilities required to be undertaken for specific activities.

BOARD AND SENIOR MANAGEMENT TEAM

- Clarify and reinforce the roles and responsibilities of the health and safety critical positions within the organisation.
- Agree health, safety and wellbeing KPI's for all senior staff members.
- Maintain oversight of identified critical risks and the effectiveness of controls in place.
- Ensure accurate measures are in place to track performance and inform health and safety decision making.
- Attain full working knowledge of the organisation's health safety management systems.
- Support workers with their obligation to stop work if they observe any methodology or work practice that is unsafe.
- Ensure that injury accidents and serious near misses are fully investigated in accordance with organisation's procedures and requirements.
- Ensure that serious incidents (Serious Harm, LTI's) are notified to the Board within 24 hours.
- Participate in strategic health, safety and wellbeing committee meetings.
- Participate in periodic health and safety inspections, reviews or audits.
- Mentor and coach leaders and workers to encourage continual improvement of its health, safety and wellbeing performance.
- Keep informed of industry health and safety developments and good risk management practices.
- Lead the organisation's health and safety culture by consistently demonstrating safe behaviours and undertaking pro-active leadership practices.

TEAM LEADERS AND MANAGERS

- Ensure workers have the required training and competencies to undertake the work safely and without risk to their health.
- Lead and participate in health and safety meetings, planning activities, risk assessments and incident investigations.
- Lead and participate in workplace inspections, audits and reviews.
- Support the organisation's health and safety culture by developing, supporting or driving initiatives to improve worker engagement, reporting or other activities.

ALL WORKERS

- Work to requirements of organisation's health and safety policies, procedure and work instructions.
- Undertake tasks that they are trained and have the competence to complete in a safe manner.
- Report hazards, incidents and near misses in accordance with the organisations requirements.
- Stop work if there are uncontrolled hazards, or of the task or work environment changes in a manner that introduces additional hazards, or impacts the effectiveness of control measures.
- Participate in engagement and communication activities and meetings.

WorkSafe New Zealand provides information and detail on workplace responsibilities, this can be accessed via the link below:

http://www.worksafe.govt.nz/worksafe/information-guidance/all-guidance-items/hswa-fact-sheets/workers-rights

HEALTH AND SAFETY TRAINING PROCEDURE

PURPOSE

To provide information regarding the establishment of a suitable health and safety training programme to meet requirements of the organisation, the risks associated with its activities and legislative and regulatory obligations.

TRAINING PROGRAM

The Health & Safety Manager, Operations Manager or equivalent shall establish an annual health and safety training program for the organisation. The training program will be communicated and made available to all workers. All courses or programs shall be provided by, or recognised by an Industry Training Organisation (ITO).

TRAINING NEEDS ANALYSIS

The training program will be based on an annual Training Needs Analysis (TNA). The TNA may be developed and completed with the organisation's HR Manager, where possible as part of any performance and development plans.

The TNA shall include any task specific training and competency requirements related to individual job functions or roles. Examples of some typical training requirements within Water operations are shown in the table below.

The TNA shall ensure that any other additional task specific compliance requirements are identified.

HEALTH AND SAFETY TRAINING ELEMENT	NZQA UNIT STANDARDS
Work at Heights	17600 Explain Safe Work Practices for Working at Height 23229 Use a Harness for Personal Fall Protection When Working at Height 15757 Use, Install, and Disestablish Proprietary Fall Arrest System when working at height
Confined Space Entry	17599 Plan a confined space entry 18426 Demonstrate knowledge of hazards associated with confined spaces
Chemical Handling	21467 Store and handle workplace chemicals
HSNO and Approved Handlers	20645 Describe the requirements of the HSNO Act 1996 relevant to approved handlers 20733 Demonstrate knowledge of safe storage and handling of hazardous substances in the workplace
Manual Handling	17592 Identify the causes of back injury and methods to prevent back injuries in the workplace

COMPETENCY FOR CONSTRUCTION ACTIVITIES

Workers who are required to work, supervise or oversee construction activities shall complete the ConstructSafe construction competency program as a minimum.

Details of ConstructSafe test centres and testing requirements may be found on the Construction Safety Council website.

http://www.constructionsafetycouncil.co.nz/constructsafe.html

HEALTH AND SAFETY FOR MANAGERS AND PEOPLE LEADERS

The annual training plans shall be developed to provide suitable training for people employed in management and team leader's roles. These may include training in aspects such as:

- Effective communication and feedback
- Conducting a Site Audit
- Effective Health and Safety Leadership.

All courses or programs shall be provided or recognised by, an ITO.

HEALTH AND SAFETY REPRESENTATIVES TRAINING

If required, elected Health and Safety Representatives shall be trained in accordance with the requirements of Health and Safety at Work (Worker Engagement, Participation and Representation) Regulations 2016.

This requires representatives to attain NZQA unit standard 29315 to act in full capacity as representatives, including the issuing of improvement notices.

WATER INDUSTRY SPECIFIC TRAINING

Connexis are the approved water industry ITO and facilitate a wide range of industry specific training programs. Details of courses are available from the website: *http://www.connexis.org.nz/*

REACTIVE TRAINING

Corrective actions arising from incident investigations, audit activities as well as changes to legislation and regulations may determine that additional training is necessary. In such instances the HS Manager, Operations Manager, or equivalent shall arrange training to be completed as soon as is practicable.

TRAINING RECORDS

Health and Safety, or relevant managers shall arrange for the qualifications and experience of new workers to be recorded in the worker's file on commencement of employment. Following satisfactory completion of training the responsible manager should arrange for copies of any assessments to be added to the worker's file and for the persons training record to be updated to record the training completed (including its title and revision), the date of completion and where applicable, the assessors name.

Training records are retained permanently in a secure, retrievable manner and in a format which protects them from deterioration, damage or loss.

REFERENCES

Water New Zealand Procedures & Guidelines:

Health and Safety Procedures:

- Confined Space Entry
- Working at Heights
- Fuel Handling and Storage
- Workplace Chemical Management
- Use of Mobile Plant

Health and Safety Guidelines:

- Manhole Entry

LEGISLATION, REGULATION AND STANDARDS

- Health and Safety at Work Act 2015
- Health and Safety at Work (General Risk and Workplace Management) Regulations 2016
- Health and Safety at Work (Worker Engagement, Participation and Representation) Regulations 2016
- Various NZQA Unit Standards
- AS 4801 Occupational Health and Safety Management Systems

3.3 CONTRACTOR AND SUPPLY CHAIN HEALTH AND SAFETY MANAGEMENT

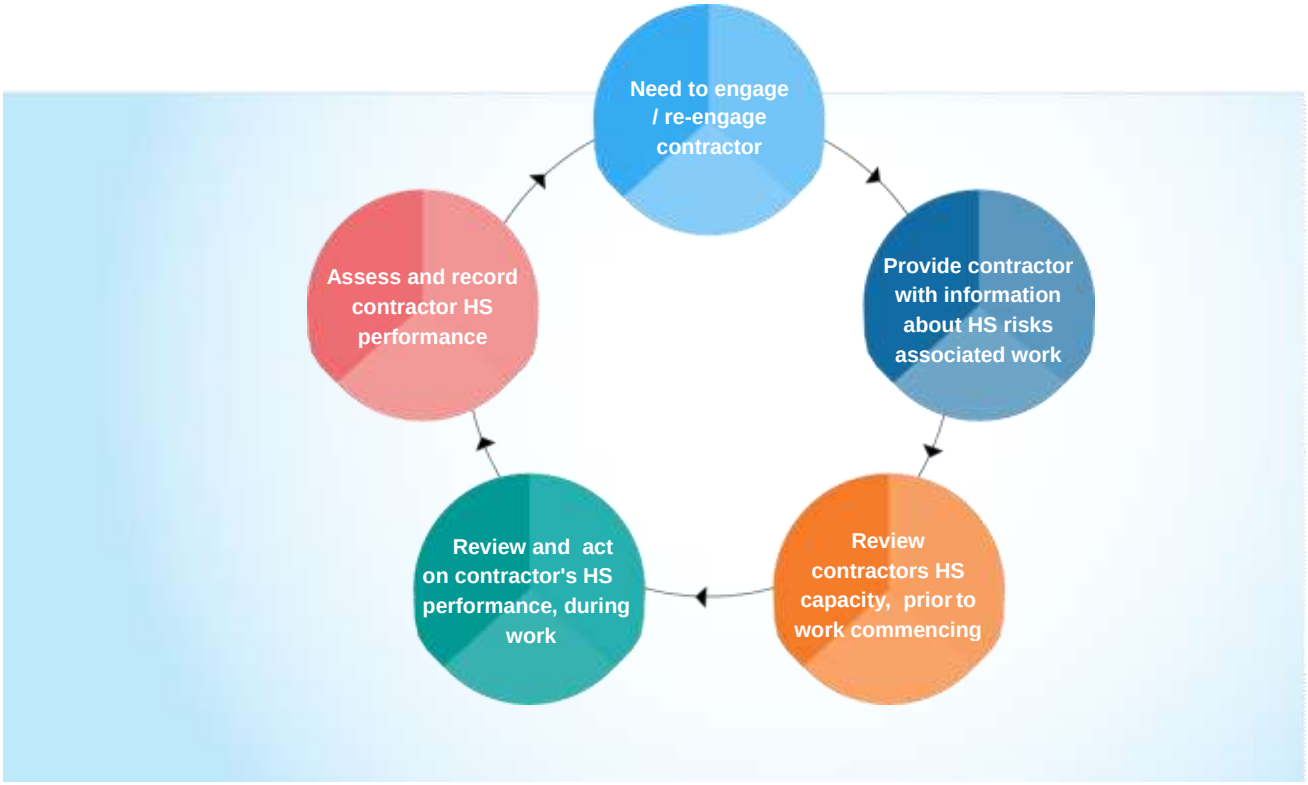
Health and Safety aspects associated with contractor and supply chain activities represent a critical risk to the organisation. The need to ensure contractors are included in health and safety consultation processes and for organisations to have demonstrable processes to actively manage the health and safety aspects of contractor activities has been one of the most significant changes introduced under the HSW Act 2015. WorkSafe have produced an overview of these changes in the document linked below:

http://www.worksafe.govt.nz/worksafe/information-guidance/all-guidance-items/a-principals-guide-to-contracting-to-meet-the-health-and-safety-in-employment-act-1992-1/guide-contracting.pdf

Health and Safety outcomes of contractor activities has a direct impact on how an organisation's performance is reported and percieved by customers, regulators and other stakeholders. Organisations are increasingly requried to demonstrate and report their health and safety performance within the supply chain.

The need to capture and report on how contractors are engaged and their peformace managed, requires clear processes, effective tools, defined accountabilites and capabilities.

This section of the guidelines provides the procedures and tools to enable the organisation to effectively manage the selection, engagement and oversight of all contractor activities, in line with the processes shown in the figure below.



CONTRACTOR HEALTH AND SAFETY MANAGEMENT PROCEDURE

PURPOSE

This procedure provides guidance and information to enable the health and safety management of contractors and sub-contractors working on behalf of the organisation.

The objective of the procedure is to ensure a systematic approach to the management of contractors so that the risks to the health and safety of contractors, staff and the general public are controlled as far as reasonably practicable.

GENERAL REQUIREMENTS

This procedure is designed to be scalable and applies to all contractor engagements by the organisation. Some processes (such as capital works projects) may have more stringent requirements, however the general steps outlined within must be followed.

DEFINITIONS

Contractor: The person and their employees/subcontractors, who are responsible for performing the work, and/or supplying the plant and materials associated with these works.

Responsible Person (RP): The organisation's representative with overall responsibility for engaging, managing, monitoring and evaluating the work or services provided by the contractor.

CONTRACTOR MANAGEMENT PROCESS

The Contractor management process involves 4 stages:

- Prequalification;
- Tender evaluation;
- Contract monitoring; and
- Contract conclusion.

PRE-QUALIFICATION

Prequalification requirements vary depending on whether the Contractor is included on a services panel, or has been validated by the organisation previously, or has never been contracted by the organisation in the past.

All contractors must be assessed and validated before they are permitted to commence any work.

The only exemption to this requirement is during a critical incident.

All contractors who are included on contract panels are exempt from the prequalification and tender evaluation stages of the contractor management process. This is because their health and safety management systems will have been assessed and deemed satisfactory previously by the organisation.

APPROVED CONTRACTOR REGISTER

The organisation may maintain a list of contractors who have had their health and safety management systems assessed by the organisation. This list should in no way exclude any new contractors from being engaged, however all contractors that perform work for the organisation must be included on the approved contractor register.

Once the RP has assessed and engaged the contractor, the required information should be forwarded to the Health and Safety Manager (or equivalent) so that the approved contractor register may be updated.

CONTRACT HEALTH AND SAFETY RISK CLASSIFICATION

Before the RP engages a contractor or submits a request for tender, the health and safety risk level of the services or works must be established.

The Contractor Classification and audit frequency Guidance attached to this procedure provides instruction on determining whether a contract is high or low risk and at what intervals the contractor should be audited on health and safety performance.

CONTRACTOR EXPECTATIONS

The organisation shall establish a set of standards that are expected from contractors and subcontractors. These should be provided to the contractor with the request for tender or quote to assist with their contract tender preparation.

CONTRACTOR HEALTH AND SAFETY QUESTIONNAIRE

To assess the status of the contractors health and safety management processes, a Contractor Health and Safety Questionnaire should be completed. Template questionnaires for the high and low risk contractors are attached to this procedure.

If the contract was deemed as high risk then a high risk questionnaire should be completed by the contractor and provided with their tender offer. If the contract is considered low risk then a low risk questionnaire can be completed by the contractor.

The completed questionnaire should be kept on file by the RP for at least the duration of the contract. A copy should be sent to Health and Safety Manager (or equivalent) so that the contractor can be added to the approved contractor register. All completed questionnaires are deemed commercial-in-confidence and are to be treated accordingly.

The RP should use the Contractor HS Questionnaire Assessment Guidance sheet to assess the completed questionnaires. Each criteria has examples of evidence provided and the types of documents that the RP should be provided with by the Contractor.

Where criteria deemed 'Best practice' are not met, this will not necessarily exclude a contractor that cannot fulfil the requirements. "Best Practice "criteria are included as they indicate a robust HS management system which may be scored preferentially in tender assessments. Criteria that are 'Mandatory' must be satisfactorily met by the contractor before they can be engaged by the organisation.

If at any time the RP is unsure whether the Contractor conforms to the organisation's health and safety expectations, assistance may be sought from the Health and Safety Manager (or equivalent).

TENDER EVALUATION

Prior to awarding a contract the RP shall determine whether the contractor conforms to the organisation's health and safety standards. The contractor may be given feedback on its tender offer and allowed an opportunity to remedy any deficiencies at the RP's discretion.

Once the contractor's health and safety management processes have been deemed acceptable, the tender offer may be evaluated on other relevant aspects. This process is to be completed in accordance with the organisation's procurement processes.

CONTRACT PERFORMANCE MONITORING

Once a contractor is engaged a level of supervision and oversight is required from the RP during the life of the contract or engagement. This involves four stages:

- Pre-Start Risk and Planning
- Induction
- Inspection and Auditing
- Performance reporting.

PRE-START RISK AND PLANNING MEETING

Before the contractor commences work a Risk and Planning Workshop should be held involving the RP and the contractor. The scope and duration of this meeting will be dictated by the type of contract and level of risk involved.

Topics to be discussed may include:

- Health and safety expectations and the contractor's understanding
- Health and Safety management plan (where relevant)
- Induction requirements
- The organisation's permit to work systems
- Inspection and audit activities, to include frequency of inspection/audit
- Health and safety incident and performance reporting requirements
- Non-conformance and corrective action process.

JSEA's, SOPs or work instructions must be provided to the RP prior to the commencement of work where the need is identified by the RP.

Documents shall be reviewed by the RP to ensure that they reflect the nature of the work and are adequate for the risk level involved. This review should also be undertaken periodically throughout the life of the contract.

Health and safety documents used by contractors must be site specific and the RP shall review the documents to ensure that consistency with the work being undertaken.

INDUCTION

The RP shall ensure that a health and safety induction is completed in line with the organisation's requirements and established processes. This may include both organisational and site specific inductions. Inductions shall be provided to ensure that relevant information about site specific hazards and other activities is communicated appropriately. Records of inductions shall be retained.

INSPECTION AND AUDITING

The RP (or representative) shall conduct inspections and oversight audits of the contractor conforming to the frequency established at the risk planning meeting. Random audits may be conducted at any time at the RP's discretion.

Audits shall be completed using the Health and Safety Inspection Checklist. The Health and Safety Manager (or equivalent) is also available to assist with auditing activities.

Any observed non-conformances should be documented in the Non-Conformance Report (link here) and a copy provided to the contractor with details of the required corrective actions.

Serious or repeated breaches of required health and safety standards or legal obligations may result in the issue of a formal contract breach notification.

PERFORMANCE REPORTING

When requested, the contractor shall provide the RP with a report on their health and safety performance. The frequency and content of this report will vary depending on the scope of works however the Contractor Monthly HS Report may be used as a guide.

Where an injury or incident has occurred to a contractor's employee or subcontractor, notification must be communicated to the RP within 24 hours (unless it is a serious incident, in which case it must be reported immediately).

It is the contractor's responsibility to notify WorkSafe NZ of any serious incident involving their employees or subcontractors, within the required timeframes. They must also notify the RP as detailed above.

Any WorkSafe NZ inspection or correspondence relating to the contract should be reported to the RP immediately. Corrective actions resulting from any WorkSafe NZ inspection shall be reported by the contractor to the RP in writing.

CONTRACT CONCLUSION

Once the contact activities have been completed the RP shall provide feedback to the contractor in relation to their health and safety performance. The feedback shall be summarised and made available for RP's to reference prior to future work or engagement of the contractor.

RESPONSIBILITIES

RESPONSIBLE PERSON

The RP is ultimately responsible for managing and coordinating the contract for the duration of the contract life. Other specific responsibilities include (but are not limited to):

- Assessing the competence of contractors to meet any identified health and safety requirements or specifications. This includes licences, qualifications and relevant approvals.
- Ensuring contractors are inducted so that they are aware of the organisation's health and safety expectations and also any site specific hazards and risks.
- Monitoring the performance of the contracted work and initiate corrective actions to remedy any deficiencies.
- Maintaining copies (electronic or otherwise) of all checklists, forms and reports that document the duty of care performed by the RP.

CONTRACTORS

Contractors have the responsibility to manage the health and safety aspects of their work, ensure the health and safety of their own workers and that their work activities do not affect the health and safety of the organisation's personnel, other contractors or visitors.

Contractors are also required to observe the organisation's health and safety requirements as well as any other requirements which may be identified in the site induction process.

ATTACHMENTS

Attachment 1 - Contractor Classification Guidance

Attachment 2 - Contractor HSE Questionnaire – Low Risk

Attachment 3 - Contractor HS Questionnaire – High Risk

Attachment 4 - Contractor HS Questionnaire Assessment Guidance

Attachment 5 - Risk and Planning Workshop Agenda

Attachment 6 - Site Induction Checklist

Attachment 7 - Contractor Monthly HS Report

Attachment 8 - Site HS Inspection Checklist

Attachment 9 - Non-conformance Report Template

CONTRACTOR MANAGEMENT ATTACHMENT 1

CONTRACT CLASSIFICATION & AUDIT FREQUENCY GUIDANCE

Proposed service/contactor representitive:..... Date:.....

Checklist completed by:.....

CONTRACT RISK LEVEL & AUDIT FREQUENCY			
Risk Rating	Contract Value (guide only)	HS Risk	Audit / Inspection Frequency
Low	$2,500 - $25,000	Short duration, low complexity, no high risk activity	Site inspection every 2 weeks
High	>$25,000	Longer duration, involves sub-contractors, known high risk tasks	Weekly site inspections, full review of management plans every 6 months

If any of the below activities occur as part of the service then the contract is automatically deemed high risk:

Confined spaces or underground activity	Yes	No
Working at heights	Yes	No
Electrical work	Yes	No
Trenching/excavation work	Yes	No
Working over water	Yes	No
Construction/Demolition work	Yes	No
Asbestos	Yes	No
Hazardous chemicals/ Dangerous goods	Yes	No
Exposure to biological hazards	Yes	No
Hot Work	Yes	No
Use of cranes, EWP's or other registered plant	Yes	No
Use, repair or installation of major plant & equipment	Yes	No
Hazardous manual handling	Yes	No
Working on roads or other transport routes	Yes	No
Contractor hiring subcontractors	Yes	No
Work involving other significant hazards to the public/staff/contractors	Yes	No

If 'Yes' is circled to any of the above, then the service is classified as a high-risk service. The contracting company will be required to complete the Contractor High Risk Questionnaire to assess their level of HSE compliance.

If you have selected 'No' to all of the above then the service is deemed low risk. The Contractor Low Risk Questionnaire should be used to assess HS compliance.

This contract has been assessed as: High Risk ☐ Low Risk ☐

CONTRACTOR MANAGEMENT ATTACHMENT 2

CONTRACTOR HEALTH AND SAFETY QUESTIONNAIRE – LOW RISK

This questionnaire forms part of the organisation's contractor evaluation process and is to be completed by the contracting company representative. Contractors must verify their responses to this questionnaire by providing evidence of their capability and capacity in relevant matters.

CERTIFICATION	
The information provided in this questionnaire is an accurate summary of the company's occupational health, safety and environmental management systems.	
Company Name:	
Contractor Representative:	Signature:
Position:	Date:
Contract Name/Reference:	Contract Number/Reference:

CONTRACT DESCRIPTION
Brief description of the scope of works:
List locations where work will be undertaken:
List the major activities and types of work to be completed:

HEALTH AND SAFETY UNDERSTANDING AND RISK AWARENESS	YES	NO
Can the company demonstrate a good understanding of the hazards and risks associated with their activities e.g. Interviews, documents? Comment:		

HEALTH AND SAFETY SYSTEMS	YES	NO
Does the company have established systems and procedures for managing HS risks, e.g. JSAs or SOPs? Comment:		

LICENSES	YES	NO
Is the company licensed for the relevant activities and does it have all appropriate competencies, licences and approvals required for the contract works? Provide copies where relevant.		

PLANT AND EQUIPMENT	YES	NO
Does the company have plant and equipment which is appropriately licensed or registered and maintained/ inspected on a regular basis? If yes provide copies of licences, registrations and maintenance records.		

COMPANY REFERENCE

Provide the following information for the most recent contract completed by the company.

Contract Description	
Client	
Name of Client Contact	
Phone Number Client Contact	
No. of work hours on contract	

CONTRACTOR MANAGEMENT ATTACHMENT 3

CONTRACTOR HS QUESTIONNAIRE – HIGH RISK

This questionnaire forms part of the organisation's contractor evaluation process and is to be completed by contractors and submitted with their tender offer. The objective of this questionnaire is to provide an overview of the contractor's Health and Safety management system. Contractors must verify their responses to the questionnaire by providing evidence of their ability and capacity in relevant matters.

CERTIFICATION	
The information provided in this questionnaire is an accurate summary of the company's health, safety and environment management system.	
Company Name:	
Contractor Representative:	Signature:
Position:	Date:
Contract Name/Reference:	Contract Number/Reference:

CONTRACT DESCRIPTION
Brief description of the scope of works: List locations where work will be undertaken:
List the major activities and types of work to be completed:

HEALTH AND SAFETY POLICY AND MANAGEMENT	YES	NO
Is there a written company Health and Safety policy? • If yes provide a copy of the policy • Comments		
Does the company have an HSE Management System certified by a recognised independent authority (e.g. AS 4801:2001) • If yes provide details		
Is there a company Health and Safety Management System manual or plan? • If yes provide a copy of the content page(s) • Comments		
Are Health and Safety responsibilities clearly identified for all levels of management and staff? • If yes provide details/examples • Comments		

SAFE WORK PRACTICES AND PROCEDURES	YES	NO
Has the company prepared JSEAs, work instruction plans or specific health and safety instructions relevant to its services and activities? • If yes provide a summary listing of procedures or instructions • Comments		
RISK MANAGEMENT	**YES**	**NO**
Is there a register of incidents • If yes provide a copy (may be desensitised)		
Is there a documented incident investigation procedure? • If yes provide a copy of a standard incident report form		
Are there procedures for maintaining, inspecting and assessing the hazards of plant operated/owned by the company? • If yes provide details		
Are there procedures for storing, handling and disposal of hazardous substances and dangerous goods? • If yes provide details		
Are there procedures for identifying, assessing and controlling risks associated with manual handling? • If yes provide details		
HEALTH AND SAFETY TRAINING	**YES**	**NO**
Is a record maintained of all training and induction programs undertaken for employees in the company? • If yes provide examples of safety training records		

Describe how Health and Safety training is conducted and verified within the company:

WORKPLACE INSPECTIONS	YES	NO
Are regular health, safety and environmental inspections at worksites undertaken? • If yes provide details		
Is there a procedure by which employees can report hazards at workplaces? • If yes provide details		
CONSULTATION AND WORKER PARTICIPATION	**YES**	**NO**
Is there a workplace Health and Safety committee? • If yes provide details of structure		
Are employees involved in decision making over Health and Safety matters? • If yes provide details		
HEALTH AND SAFETY PERFORMANCE MONITORING	**YES**	**NO**
Is there a system for recording and analysing Health and Safety performance statistics including number and type of injuries and incidents? • If yes provide details		
Are employees regularly provided with information on company health and safety performance? • If yes provide details		

REGULATORY ACTION	YES	NO
Has the company ever been convicted of an occupational health and safety offence? • If yes provide details Has the company been issued with an environmental infringements notice, enforceable undertaking or otherwise prosecuted on environmental grounds? • If yes provide details		

MANAGEMENT COMMITMENT	YES	NO
Can the company demonstrate management commitment to Health and Safety and a strong safety culture? • May include: ~ Senior manager chairing Health and Safety committee ~ Managers with Health and Safety KPI's ~ Managers having a Health and Safety component in their position descriptions		

OTHER CONTRACT SPECIFIC REQUIREMENTS	YES	NO

COMPANY REFERENCE

Provide the following information for the two (2) most recent contracts completed by the company

	1ST CONTRACT	2ND CONTRACT
Contract Description		
Client		
Name of Client Contact		
Phone Number Client Contact		
Total number of work hours		

CONTRACTOR MANAGEMENT ATTACHMENT 4

CONTRACTOR HS QUESTIONNAIRE ASSESSMENT GUIDANCE

This questionnaire forms part of the organisation's contractor evaluation process and is to be completed by contractors and submitted with their tender offer. The objective of this questionnaire is to provide an overview of the contractor's Health and Safety management system. Contractors must verify their responses to the questionnaire by providing evidence of their ability and capacity in relevant matters.

CERTIFICATION	
Company Name:	
Contact Name:	Position:
Contract Name/Reference:	Date:
Questionnaire Assessed by:	

CRITERIA	MANDATORY OR BEST PRACTICE	EXAMPLES OF EVIDENCE	YES	NO	N/A	COMMENTS
Is there a written company HS policy?	Best Practice	The Policy provided by the contractor should: • Be signed by the CEO or equivalent • Outline clear statement of objectives • Show commitment to improve performance • Be relevant to company operations • Be reviewed on a regular basis				
Does the company have an HS Management System certified by a recognised independent authority?	Best Practice	• Certification demonstrates that the contractor meets minimum standards, verified by an independent party. These may include AS 4801:2001 or ISO 45001				
Is there a company HS Management System manual or plan?	Best Practice	The company HS manual or plan should include: • Health, safety and environment policy • Management HS responsibilities • General occupational health, safety and environment procedures • Safe Work procedures relevant to the company operations • Public safety procedures • Induction and training procedures • Issue resolution and OHS consultation mechanisms				
Are HS responsibilities clearly identified for all levels of management and staff?	Best Practice	Responsibilities should be documented and include: • HS responsibility statements • Employee's job descriptions				

CRITERIA	MANDATORY OR BEST PRACTICE	EXAMPLES OF EVIDENCE	YES	NO	N/A	COMMENTS
Has the company prepared safe work method statements or specific safety instructions relevant to its services?	Mandatory	The contractor must be able to demonstrate safe work procedures which: • Are relevant to company operations • Contain a description of the tasks and associated hazards • Outline control measures and methods to minimise health, safety and environment risks				
Does the company maintain a register of injury document?	Best Practice	The register should contain the following information: • Worker's name • Worker's occupation or job title • Time and date of injury • Worker's exact location at the time of the injury • Exact description of how injury was sustained • Nature of injury and the body part(s) affected • Witnesses to the injury, if any • Date of entry in register • Name of person making the entry				
Is there a documented incident investigation procedure?	Best Practice	• Incident reports • Investigation forms • Incident investigation procedure • Completed investigation forms				
Are there procedures for maintaining, inspecting and assessing the hazards of plant operated/owned by the company?	Mandatory	• Documented risk assessments for relevant plant or risk assessment procedure • Copy of plant operator licences • List of plant requiring registration • Plant maintenance and inspection forms • Pre-start daily safety inspection forms • Plant fault reporting system				
Are there procedures for storing and handling hazardous substances and dangerous goods?	Mandatory	• Manifest or register of chemicals used by the contractor • Material Safety Data Sheets for chemicals used • Safe handling procedures, including personal protective equipment • Relevant training documentation				
Are there procedures for identifying, assessing and controlling risks associated with manual handling?	Mandatory	• Documented risk assessments for manual handling hazards • Systems used to control manual handling risks (work procedures, JSA etc.)				
Is a record maintained of all training and induction programs undertaken for employees in the company?	Best Practice	• Records of training and competencies of employees (licences, permits, certificates) • Records of 'on the job' training • Tool box meetings conducted • Induction training programs				

CRITERIA	MANDATORY OR BEST PRACTICE	EXAMPLES OF EVIDENCE	YES	NO	N/A	COMMENTS
Are regular health and safety inspections at worksites undertaken?	Best Practice	• Workplace inspection schedules • Completed inspection reports • Records maintained • Types of inspections undertaken				
Is there a procedure by which employees can report hazards at workplaces?	Best Practice	• Documented hazard reporting procedure and forms • Completed hazard reports				
Is there a workplace HS committee?	Best Practice	• Document showing structure of committee • Meeting schedule/agenda • Copies of meeting minutes				
Are employees involved in decision making over HS matters?	Best Practice	• List of employee health and safety representatives • Documented procedures for consultation and dissemination of information • Employee involvement in inspection, accident investigation				
Is there a system for recording and analysing HSE performance statistics including number and type of injuries and incidents?	Best Practice	• Monthly HS reports to management • Graphical analysis of incidents and injuries				
Are employees regularly provided with information on company HS performance?	Best Practice	• Copy of HS noticeboard checklist • HS communication or consultation procedure				
Has the company ever been convicted of an occupational health, safety offence?	Mandatory	The RP should confirm: • The nature and circumstances of any convictions • Evidence of corrective actions being closed out				
Can the company demonstrate management commitment to HS and a strong safety culture?	Best Practice	• Senior manager chairing HS committee • Managers with HS KPI's • Managers have HS component in their position descriptions				
Please provide references on HS performance for the two (2) most recent contracts completed by the company	Mandatory	• The reference checks should be used to confirm that the contractors stated HS management system is implemented in the actual works they perform • The previous companies should be able to provide a qualitative assessment of how the contractor performed in regards to HS matters				

CONTRACTOR MANAGEMENT ATTACHMENT 5

RISK AND PLANNING WORKSHOP AGENDA

Held on:	
At:	
Time:	

AGENDA

1.	Introduction
2.	Around the table (names, roles, responsibilities)
3.	Outline project scope or contractor engagement
4.	Discuss Organisation's HS expectations and confirm contractors understanding
5.	HS management plan submission and review status (where relevant)
6.	Detail induction requirements (both organisation and site)
7.	Discuss Organisation's permit to work system
8.	Confirm relevant environmental permits and approvals are in place
9.	Discuss contractors use of organisation's assets (e.g. gantry cranes, plant)
10.	Detail audit activity and established timings
11.	Discuss hazard, incident and monthly HS reporting requirements
12.	Outline non-conformance and corrective action process
13.	Other matters
14.	Review discussed items and agreed action items

CONTRACTOR MANAGEMENT ATTACHMENT 6

SITE INDUCTION CHECKLIST

Location of Worksite:	
Responsible Person:	Signature:
Position:	Date:

The Responsible Person (RP) shall provide relevant information on the following points to personnel being inducted to site.

	INDUCTION ITEM	YES	NO	N/A
1	Sign In/Out book			
2	Emergency process and assembly area			
3	Emergency equipment locations (e.g. fire extinguishers)			
4	First aid kit location and details of first aider/s			
5	Major HS hazards and control measures on site (including no-go zones): Details:			
6	Minimum site PPE • Hard hat • Safety glasses • Safety footwear • Long sleeved shirt • Long trousers • High visibility vest • Gloves • Other:			
7	Location of chemicals, MSDS, spill kits and emergency showers			
8	HS documentation requirements (JSEA's, Permits etc.)			
9	Hazard reporting and incident notification requirements			
10	Other activities taking place at the site			
11	Site amenities (toilet, drinking water, smoking areas etc.)			
12	Parking arrangements and speed limits			
13	Health and Safety Representative and other contact details			

INDUCTION ATTENDANCE SIGN OFF

The above site specific Health and Safety information has been adequately explained to me

Name	Company	Signature	Supervisor Initial

CONTRACTOR MANAGEMENT ATTACHMENT 7

CONTRACTOR MONTHLY HS REPORT

Contractor (company):	Contact Name:
Month/Year:	Date Submitted:
Work Locations:	Signature:

HEALTH AND SAFETY MEASURES	NUMBER
Person-hours worked (including subcontractors)	
Hazards reported & % closed out	
Documented workplace inspections undertaken	
Toolbox talks developed and delivered	
Documented site leadership walks undertaken by management	
Internal compliance audits undertaken	
Training hours (internal and external)	
INCIDENTS	**NUMBER**
Number of incidents	
Site Visits by WorkSafe NZ	

CONTRACTOR MANAGEMENT ATTACHMENT 8

SITE H&S INSPECTION CHECKLIST

Contract Name:						Contract #:			
Contractor:				Auditor:		Location:			
Date:		Time Arrive:		Weather:		Time Leave:		Visit # for day:	
Site Supervisor:		H&S Supervisor:		Site Activities:					

Use of form: To be used by experienced auditors with specific training on the use of this form. Generally to be undertaken at all sites at commencement and indicatively, monthly. For traffic management audits, use separate Code of practice for temporary traffic management (CoPTMM) forms.

SYSTEMS & FACILITIES

ADMINISTRATION	INSPECTION FINDINGS
Have all previous Non-Conformances & Recommended Improvements been rectified?	Full compliance - Good Standard
Is there a site specific safety plan in place?	Full compliance - Good Standard
Are emergency procedures in place?	Full compliance - Good Standard
Has a site evacuation plan been implemented?	Full compliance - Good Standard
Is there evidence that a toolbox talk has been held within the last 14 days? (Site staff)	Full compliance - Good Standard
Is there a permit to work system in place (close proximity, Confined Spaces etc.)?	Full compliance - Good Standard
Are regular site safety meetings held and minuted?	Full compliance - Good Standard
Are regular safety inspections being carried out and documented? (Snr management)	Full compliance - Good Standard
Has Notifiable work been notified to WorkSafe NZ?	Full compliance - Good Standard
Is there a site specific induction system in place?	Full compliance - Good Standard
Is there a Site Hazard Register in Place?	Full compliance - Good Standard
Is there a suitable Hazard Board with current hazards recorded regularly updated?	Full compliance - Good Standard
Is there adequate site signage? (Site office, Assembly point, First aid etc.)	Full compliance - Good Standard
	100%

Site offices clean & tidy	Partial Compliance
Toilet areas clean & tidy (or other facilities been identified and made available.)	Partial Compliance
Lunch room & food prep area clean - hand washing facilities been provided	Partial Compliance
First aid kits in place & well stocked	Partial Compliance
Fire extinguishers charged & current (Serviced 12 monthly)	Partial Compliance
Temporary electrical installation tagged (3 monthly)	Partial Compliance
Adequate signage for all First Aid kits?	Partial Compliance
	50%

SUBCONTRACTORS	INSPECTION FINDINGS
Are Site-specific inductions being carried out for all site staff? (Section 3)	Non-Compliant - Needs Attention
Is the Subcontractors Site Specific Safety Plan in place and agreed?	Non-Compliant - Needs Attention
Is Subcontractor hazard ID and Control being carried out? (Section 5)	Non-Compliant - Needs Attention
Is Task Analysis done for all significant works? (Section 5)	Non-Compliant - Needs Attention
Has emergency planning for task Analysis been completed for all significant works? (Section 5)	Non-Compliant - Needs Attention
Is there a system in place for employee participation in safety issues e.g. toolbox talks?	Non-Compliant - Needs Attention
Are Subcontractor Self Inspections being carried out?	Non-Compliant - Needs Attention
Are Subcontractors completing an Incident register?	Non-Compliant - Needs Attention
Do subcontractors have evidence of competency training for their employees?	Non-Compliant - Needs Attention
Have subcontractors notified WorkSafe NZ of notifiable work?	Non-Compliant - Needs Attention
	0%

Is there an accident/incident register?	Not Applicable
Is there a detailed description of what happened?	Not Applicable
Has the actual cause of the accident/incident been established?	Not Applicable
Has the future preventative action been agreed?	Not Applicable
Has the preventative action been completed and the report close out?	Not Applicable
	Not Applicable

GENERAL SAFETY

HOUSEKEEPING	INSPECTION FINDINGS
Work areas clean & tidy	Full compliance - Good Standard
Access ways clear (including stairways)	Full compliance - Good Standard
Materials stacked safely	Full compliance - Good Standard
Rubbish bins provided	Full compliance - Good Standard
Combustible materials stowed	Full compliance - Good Standard
Hazardous materials controlled	Full compliance - Good Standard
All Vertical Reinforcing Steel Bars Capped	Full compliance - Good Standard
Enclosed material waste chutes	Full compliance - Good Standard
Nails in timber made safe	Full compliance - Good Standard
Slips & trips controlled	Full compliance - Good Standard
Adequate lighting	Full compliance - Good Standard
Public protection	Full compliance - Good Standard
Is Asbestos removal in accordance with WorkSafe NZ Guidelines?	Full compliance - Good Standard
	100%

PERSONAL PROTECTIVE EQUIPMENT (PPE)	INSPECTION FINDINGS
Hard hats worn	Partial Compliance
Safety glasses/goggles worn	Partial Compliance
Respirators or masks worn	Partial Compliance
Hearing Protection worn	Partial Compliance
Protective clothing worn	Partial Compliance
Hi Visibility clothing worn	Partial Compliance
Adequate safety footwear worn	Partial Compliance
Fall arrest harness worn	Partial Compliance
	50%

EXCAVATIONS AND TRENCHES	INSPECTION FINDINGS
Underground services located before digging	Non-Compliant - Needs Attention
Shield Protection or sides battered for trench excavations >1.5m deep or in friable ground	Non-Compliant - Needs Attention
Protection Barriers provided where required for deep excavations	Non-Compliant - Needs Attention
Excavated material stock piled minimum of excavation plus 1 metre depth from edge of trench	Non-Compliant - Needs Attention
Safe access to excavations provided	Non-Compliant - Needs Attention
If required, has the appropriate permit to dig been issued?	Non-Compliant - Needs Attention
Machines working safe distance from edge of excavation.	Non-Compliant - Needs Attention
	0%

WELDING AND GAS CUTTING	INSPECTION FINDINGS
Are gas bottles secured in use and/or stored correctly?	Full compliance - Good Standard
Flash back protectors fitted to regulator end and on both oxy & fuel gas bottles	Full compliance - Good Standard
Hot work procedures in place and work permit issued	Full compliance - Good Standard
Welding screens, signs, area underneath barricaded to prevent access	Full compliance - Good Standard
Fire Extinguisher nearby	Full compliance - Good Standard
	100%

HEALTH	INSPECTION FINDINGS
Hazardous substances identified (lead, asbestos, Silica)	Partial Compliance
MSD Sheets available on site	Partial Compliance
Air monitored i.e. confined spaces, Contaminated Ground	Partial Compliance
Confined space management plan in place incl. permit.	Partial Compliance
Protection form excessive noise, dust and toxic contaminants	Partial Compliance
	50%

WORK AT HEIGHT

HEIGHT - GENERAL	INSPECTION FINDINGS
Are fall hazards controlled>	Non-Compliant - Needs Attention
Guardrails in place where required	Non-Compliant - Needs Attention
Toeboards in place where required	Non-Compliant - Needs Attention
Holes & floor penetrations covered or barricaded	Non-Compliant - Needs Attention
Anchors/static lines designed & installed by a competent person	Non-Compliant - Needs Attention
Harnesses used and fitted correctly	Non-Compliant - Needs Attention
Rescue plan in place	Non-Compliant - Needs Attention
	0%

LADDERS

STANDARD LADDERS	INSPECTION FINDINGS
Suitable for the job i.e. commercial/industrial grade not domestic.	Not Applicable
Set up on firm level ground	Not Applicable
Ladder secured (base and/or top)	Not Applicable
At correct angle - 4 up to 1 out	Not Applicable
Are ladders in good condition	Not Applicable
Projects 1m above step off point	Not Applicable
	Not Applicable

STEP LADDERS	INSPECTION FINDINGS
Suitable for the job i.e. commercial/industrial grade not domestic.	Full compliance - Good Standard
Step ladder lock bars in place	Full compliance - Good Standard
Set up on firm level ground	Full compliance - Good Standard
Are ladders in good condition	Full compliance - Good Standard
Operator not working higher than third step down	Full compliance - Good Standard
	100%

ALL SCAFFOLDS

STANDING SCAFFOLD	INSPECTION FINDINGS
Suitable for the job	Partial Compliance
Erected by certified scaffolder (required if over 5 meters high)	Partial Compliance
Scaf-tag / acu-log scaffold register up to date	Partial Compliance
Access to Scaffold	Partial Compliance
Ladders on scaffold suitable - 4 up to 1 out, secured, 1m past step off (or suitable hand holds)	Partial Compliance
Guardrails between 0.9 & 1.1m	Partial Compliance
Intermediate rail in place	Partial Compliance
Gap- platform to workface no more than 300mm	Partial Compliance
Gap- platform greater than 300mm are guardrails or inside plank fitted	Partial Compliance
Platforms adequate. 3 planks minimum. Butted and secured	Partial Compliance
Debris Netting in place	Partial Compliance
Toeboard in place & 225mm high min	Partial Compliance
Adequate base plates & sole plates	Partial Compliance
	50%

MOBILE SCAFFOLD	INSPECTION FINDINGS
Suitable for the job	Non-Compliant - Needs Attention
Set up on firm ground	Non-Compliant - Needs Attention
Wheels locked	Non-Compliant - Needs Attention
Wheels turned out (increased stability)	Non-Compliant - Needs Attention
Deck fully decked & secured	Non-Compliant - Needs Attention
Guardrails between 0.9 & 1.1m	Non-Compliant - Needs Attention
Toeboard in place where scaffold is over 3m high	Non-Compliant - Needs Attention
Access from within the scaffold frame	Non-Compliant - Needs Attention
No higher than 3x the width at the base	Non-Compliant - Needs Attention
If h=> than 3xw are outriggers fitted	Non-Compliant - Needs Attention
Narrow Scaffolds (1m or less) No higher than 2x the width at the base	Non-Compliant - Needs Attention
Scaf-tag/acu-log in place & up to date where required	Non-Compliant - Needs Attention
	0%

Stable & secure support structure	Not Applicable
Platform minimum width of 675mm (3 Planks)	Not Applicable
Guardrails provided where required	Not Applicable
Toeboard in place if over 3m high	Not Applicable
	Not Applicable

ELEVATED WORK PLATFORMS (EWP)	INSPECTION FINDINGS
Set up on level ground support legs out	Full compliance - Good Standard
Inspected & tested within last 6 months	Full compliance - Good Standard
At least 4m from power lines	Full compliance - Good Standard
Fall arrest harnesses being worn (n/a to scissor hoists)	Full compliance - Good Standard
Harness lanyard just long enough	Full compliance - Good Standard
	100%

TOOLS AND PLANT

TRANSPORT & MOB MECHANICAL PLANT	INSPECTION FINDINGS
Drivers/operators properly trained	Partial Compliance
Vehicles securely loaded	Partial Compliance
Reversing vehicles are controlled	Partial Compliance
Vehicle warning signs displayed	Partial Compliance
Fitted with operator protective structures	Partial Compliance
Protective structure in good repair	Partial Compliance
Seat belt effective and in good repair	Partial Compliance
	50%

EQUIPMENT & MACHINERY & TOOLS	INSPECTION FINDINGS
All machinery set up properly and secured in place	Non-Compliant - Needs Attention
Tool guards secured & in good order	Non-Compliant - Needs Attention
Are gears, chain drives and shafts and moving parts guarded?	Non-Compliant - Needs Attention
Has all plant been inspected within the last 12 months?	Non-Compliant - Needs Attention
Compressed air - matched & secured connections	Non-Compliant - Needs Attention
	0%

CRANES & LIFTING APPLIANCES	INSPECTION FINDINGS
Is there a current test certificate?	Not Applicable
Are weekly inspections carried out?	Not Applicable
Has lift plan been sighted by auditor? (crane work only)	Not Applicable
Are the crane slings certified?	Not Applicable
Are the crane operator & dogman trained appropriately?	Not Applicable
	Not Applicable

POWDER-ACTUATED TOOLS	INSPECTION FINDINGS
Operator certified	Full compliance - Good Standard
Tool has 6 monthly certificate	Full compliance - Good Standard
Tool & cartridges secured when not in use	Full compliance - Good Standard
3 second verbal warning given to workers in the vicinity prior to use	Full compliance - Good Standard
Isolation & signage in accordance with ACOP	Full compliance - Good Standard
Hearing & eye protection worn	Full compliance - Good Standard
	100%

ELECTRICAL	INSPECTION FINDINGS
Are electrical leads and tools free from defects and damage?	Partial Compliance
Are Tools and leads tagged 3 monthly?	Partial Compliance
Are lifeguards tagged 3 monthly?	Partial Compliance
Use of portable gen sets with internal RCD	Partial Compliance
Are leads industrial rated?	Partial Compliance
Does temporary festoon lighting have moulded in line sockets?	Partial Compliance
Commercial splitter boxes & double adaptors only in use with RCD.	Partial Compliance
RCD protection used with internal power points	Partial Compliance
Leads clear of water and protected from traffic?	Partial Compliance
	50%

ENVIRONMENTAL

ENVIRONMENTAL ISSUES	INSPECTION FINDINGS
Is there an environmental protection plan in place?	Non-Compliant - Needs Attention
Is there a silt control plan in place?	Non-Compliant - Needs Attention
Is there spill control in place for refuelling?	Non-Compliant - Needs Attention
Is there any machinery, vehicles or materials within the permeable drip line of a tree area?	Non-Compliant - Needs Attention
Is construction waste being controlled?	Non-Compliant - Needs Attention
Is there a truck tyre wash system in place?	Non-Compliant - Needs Attention
Is construction noise being controlled?	Non-Compliant - Needs Attention
Wash area provided for paint, plaster & concrete etc.?	Non-Compliant - Needs Attention
	0%

TRAFFIC MANAGEMENT

TRAFFIC MANAGEMENT	INSPECTION FINDINGS
Is there a TMP for this site?	Full compliance - Good Standard
Is there a copy of the TMP on site?	Partial Compliance
Is traffic signage as per the TMP?	Non-Compliant - Needs Attention
Is the site set up as per the TMP?	Not Applicable
Is there a qualified Traffic Controller on site?	Full compliance - Good Standard
	63%

OVERALL PERFORMANCE	50%

AUDIT SUMMARY

☐ No observed deficiencies

☐ Non-compliant: Non-compliant items identified above need to be improved/corrected by the Contractor (item ratings of 0 or 1)

☐ Discussed with Contractor. Satisfied the hazard(s) will be rectified immediately by Contractor

☐ SUSPENSION OF WORK until the hazard(s) identified above are corrected

Auditor..... Company.....

Contractor..... Auditor extra visit.....

(to confirm receipt) *(approval to proceed)*

Significant Hazard(s) rectified at..... am/pm

This form issued without prejudice and for record purposes only and may be subject to review by the Engineer at any time

CONTRACTOR MANAGEMENT ATTACHMENT 9

NON-CONFORMANCE REPORT TEMPLATE

This template should be used by the organization's responsible person to record contractor non-conformances and detail agreed corrective actions. One copy should be left with the contractor with the other kept on file.

DATE:			
Contractor Details		Responsible Person Details	
Contractor Company:		Name:	
Contract Name/Project:		Department:	
Contact Name:		Position:	
Telephone:		Telephone:	
Email:		Email:	
Signature:		Signature:	

DETAILS OF NON CONFORMANCE	IMMEDIATE ACTIONS TAKEN	CORRECTIVE ACTIONS REQUIRED	TARGET COMPLETION DATE	VERIFICATION OF COMPLETION

Serious or repeated breaches of required HS standards or legal obligations may result in the issue of a formal contract breach notification.

3.4 ASSET DESIGN AND DECOMMISSIONING

There are clear obligations to design out health and safety hazards associated with the construction and operation of assets where practicable. Health and Safety in Design (SiD) begins in the conceptual and planning phases of a project. The emphasis is on making the right choices about the design as early as possible to enhance the safety of the project. These choices may include appropriate methods of construction, ongoing maintenance provisions or materials used.

Risks relating to operating, servicing and maintaining a structure or asset can be controlled by:

- Designing the structure so that maintenance can be performed at ground level or safely from the structure, for example, positioning air-conditioning units and lift plant at ground level, designing inward opening windows, integrating window cleaning bays or gangways into the structural frame.
- Designing features to avoid dirt traps
- Designing and positioning permanent anchorage and hoisting points into structures where maintenance needs to be undertaken at height.
- Designing safe access, such as fixed ladders, and sufficient space to undertake structure maintenance activities.
- Eliminating or minimising the need for entry into confined spaces
- Using durable materials that do not need to be re-coated or treated.

The decommissioning and demolition of existing assets includes many high risk activities and processes. There are clear guidelines for ensuring health and safety in demolition provided in the best practice guidelines developed by WorkSafe New Zealand:

http://www.worksafe.govt.nz/worksafe/information-guidance/all-guidance-items/best-practice-guidelines-for-demolition-in-new-zealand

The information and tools provided in this section of the guidelines will enable organisations to identify and control the hazards associated with the design and decommissioning of new, upgraded or unwanted assets.

This section does not cover the decommissioning of Asbestos Cement (AC) pipe. For further detail on decommissioning and remediation of AC Pipe, refer to the Water New Zealand National Asbestos Cement Pressure Pipe Manual Volume 1 and the BRANZ New Zealand Guidelines for Assessing and Managing Asbestos in Soil.

HEALTH AND SAFETY IN DESIGN

PURPOSE

To provide guidance and tools to enable organisations to conduct and record outputs from Health and Safety in Design activities and to record/retain them throughout the asset life cycle. The purpose of this process is to provide guidance regarding Health and SiD obligations to Asset Managers, Designers, Project Managers, Operators, Maintainers, Contractors and other workers involved in design and asset management activities.

GENERAL REQUIREMENTS

HEALTH AND SAFETY IN DESIGN

The organisation is committed to improving the safety performance of the organisation as a whole, including its full supply chain and the assets it manages. As such, health and safety will be a priority of leadership during all planning and design phases.

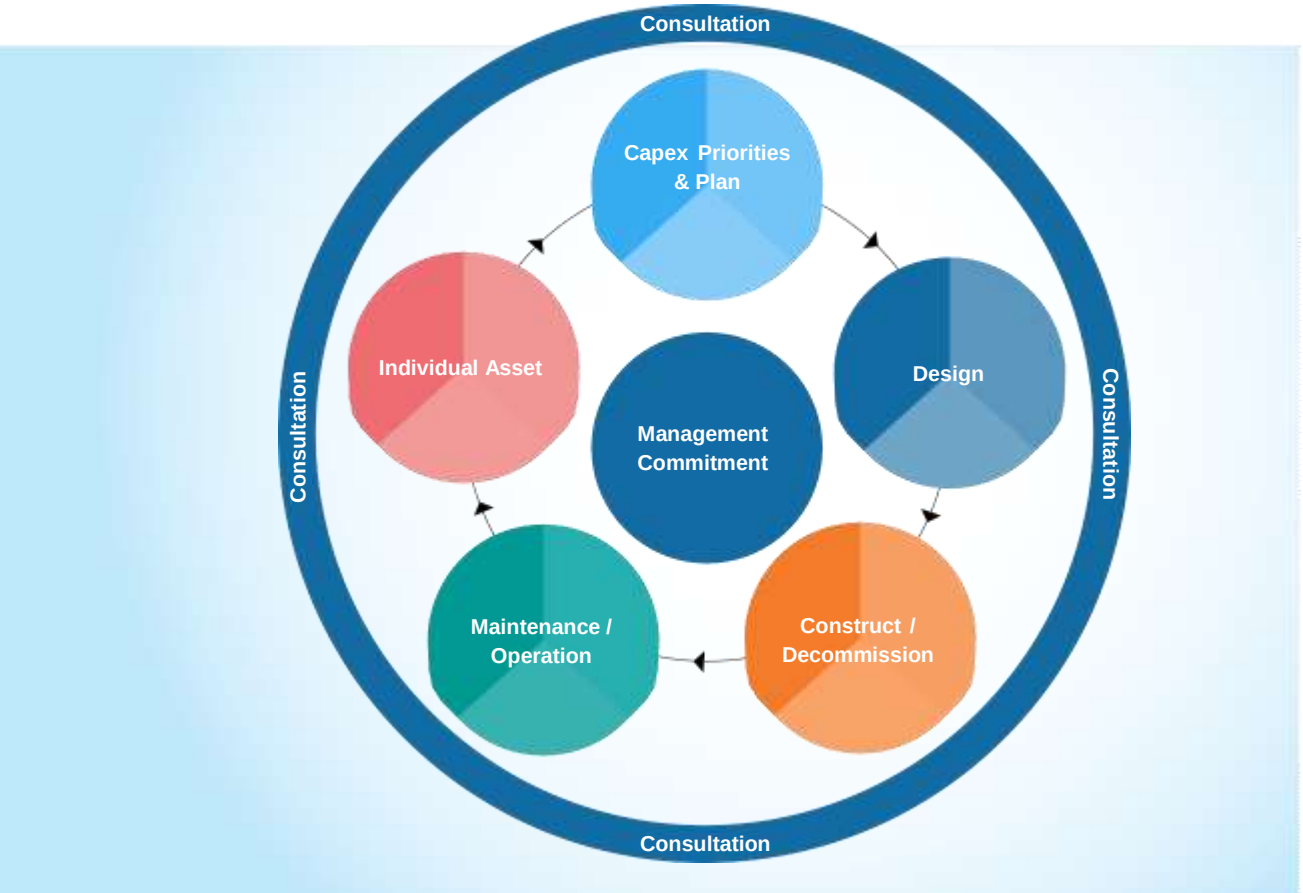
In order to eliminate, or if this is not reasonably practicable, minimise the risks to health and safety throughout the life of the structure being designed, control measures must be integrated early in the asset management and design processes.

The diagram below illustrates the steps within the asset lifecycle at which safety must be considered and the frameworks which are integral to their success.

HEALTH AND SAFETY AT WORK ACT 2015

The Health and Safety in Design process is intended to align the organisation's practices to meet all legislated requirements under the Health and Safety at Work Act 2015. The Organisation must, so far as is reasonably practicable, ensure that any plant, substance or structure is designed to be without risks to the health and safety of persons who use or interact with the plant, substance or structure. This needs to consider all phases including construction, normal and abnormal use, maintenance and demolition.

ASSET HEALTH AND SAFETY INFORMATION CYCLE



HEALTH AND SAFETY IN DESIGN PROCEDURE

PROCESS APPLICATION AND SCOPE

This process applies where significant changes to plant, substance or structure are planned in maintaining, reinstating, upgrading, decommissioning or other activities involving the Organisation's managed assets and services. As such this procedure applies in any of the following situations:

- changing work practices, procedures or the work environment;
- purchasing new or used equipment or using new substances;
- planning to improve productivity or reduce costs; and
- designing and planning significant changes to a plant, substance or structure

PROCEDURE

SAFETY IN DESIGN REQURIEMENTS

Any proposal for construction of new, or significant changes to plant, substance or structure managed by the organisation must consider health and safety risks.

Any significant change requires a SiD Health & Safety Risk Assessment and must follow the organisation's Health and Safety in Design process.

HEALTH AND SAFETY RISK REGISTER REVIEW

The Asset Manager and Investigator (typical for Capex projects) or Operator/Maintainer (typical for Opex projects) shall first review the organisation's HS risk register and any previous risk assessments and incident information. They shall determine if there are any known health & safety risks associated with this asset, or similar infrastructure that need to be considered.

The Asset Manager and Investigator or Operator/Maintainer then prepares initial SiD Health & Safety Risk Assessment.

The Operator/Maintainer shall consider if technical input is required from others (Investigator, Designer, and Project Manager) to help design the new or modified asset.

DESIGNER RISK ASSESSMENT

When a design brief is generated and issued to a Designer, the Designer shall review the initial SiD Health & Safety Risk Assessment and further develop it in consultation with the Investigator and Project Manager.

The Designer shall circulate the SiD Health & Safety Risk Assessment to all stakeholders involved.

If, during the course of the design, the Designer identifies non-routine Health & Safety risks or residual Health & Safety risks that cannot be reduced to below a moderate risk rating, additional consultation shall be sought via a Design meeting.

If the Designer determines all Health & Safety risks to be routine and residual Health & Safety risk ratings as less than moderate, the designer shall instead seek Operator/Maintainer review.

The Designer is to record the reasons and evidence for decisions made in the SiD Health & Safety Risk Assessment. The Operator/Maintainer must peer review the Designer's SiD Health & Safety Risk Assessment prior to the Designer communicating any SiD Health & Safety Risk Assessment.

HEALTH AND SAFETY IN DESIGN RISK ASSESSMENT

For projects with non-routine health & safety risks or residual health & safety risks assessed as moderate or greater, the Designer shall facilitate a SiD Workshop with relevant stakeholders, including: Investigator, Project Manager, Operator/Maintainer, and Contracts Officer. Input from the Property Owner/Representative and any other affected party must be considered (e.g., local school board, business owner, etc.)

As part of the meeting, establish the design context (considering industry experience; history of the plant, substance or structure and location; intended function and interaction with other plant, substances or structures; and known site or unusual design risks). Where required, complete a site visit as part of this meeting.

The purpose of the workshop is to eliminate or minimise, so far as is reasonably practicable (SFAIRP), risks to health & safety at the design stage. The Designer shall update the SiD Health & Safety Risk Assessment accordingly and circulate it to all stakeholders involved.

The Design Manager shall engage specialist services to facilitate a more detailed Health & Safety risk assessment when designing an entire site where regular person access is reasonably expected to occur or where the stakeholders in the SiD Meeting cannot identify reasonably practicable steps to reduce the risk below high (e.g., design for a pump station with a dry well, but not design for a standard manhole).

In addition, a more detailed Health and Safety risk assessment should be done when:

- there is uncertainty about how a hazard may result in injury or illness
- the work activity involves a number of different hazards and there is a lack of understanding about how the hazards may interact with each other to produce new or greater risks;
- changes at the workplace occur that may impact on the effectiveness of control measures or
- existing Standards and Codes are inadequate to address a risk

The Design Manager is to record reasons and evidence for decision in the SiD Health & Safety Risk Assessment.

DETAILED HEALTH AND SAFETY IN DESIGN WORKSHOPS

A specialist shall facilitate a workshop (including a site visit, if required) using a more detailed risk assessment and management process (e.g. HAZOP or other appropriate technique) to ensure the health and safety risks can be reduced SFAIRP.

The specialist must demonstrate relevant experience and formal training or qualifications, such as:

- Formal training in risk management and/or Health and Safety in Design;
- Demonstrated experience or training in the selection, application and/or facilitation of risk management tools and techniques (e.g. HAZOP, etc.)

The meeting shall include relevant stakeholders including: Designer, Project Manager, Operator/Maintainer, Property Owner/ Representative, Contracts Officer, Contractor and any other relevant affected party.

The Designer shall update the Sid Health & Safety Risk Assessment based on the review from this meeting and circulate it to all stakeholders involved.

COMMUNICATION AND HAND OVER OF HEALTH AND SAFETY IN DESIGN INFORMATION INTO CONSTRUCTION PHASE

During the Contractor/Constructor selection process, the organisation shall communicate the SiD Health & Safety Risk Assessment, including residual risks, to the Contractor.

PRE-CONSTRUCTION MEETING

A Pre-Construction meeting shall be arranged. This should include as appropriate: Project Manager, Operator/Maintainer, Contracts Officer and Contractor. Input from the Property Owner/ Representative and any other affected party should be sought.

The purpose of this meeting is to review and update the H&S Risk Assessment and to discuss the construction methodology as it relates to the design, confirming that it can be constructed safely. The designer shall update the SiD Health & Safety Risk Assessment based on the review in this meeting and circulate it to all stakeholders involved.

PROJECT SPECIFIC HEALTH AND SAFETY MANAGEMENT PLAN

The Contractor shall review and use the SiD Health & Safety Risk Assessment to prepare a project specific Health & Safety plan for construction, including proposed method for control of, as a minimum, residual Health & Safety risks identified as moderate and above on the SiD Health & Safety Risk Assessment received from the Designer.

The Project Manager shall review the adequacy of the Contractor's site-specific Health & Safety plan prior to the Contractor commencing construction, and raise any concerns with the Contractor.

The Contractor is responsible for completing construction of the design in accordance with project specific Health & Safety plan.

CONSTRUCTION HEALTH AND SAFETY MONITORING

The Project Manager and Contracts Officer shall monitor the construction of the design for compliance with the project-specific Health & Safety plan.

For any design changes or unanticipated health & safety risks, the Contractor, Designer, Project Manager and Contracts Officer should reconsider the SiD Health & Safety Risk Assessment, including any requirement to revisit a step in the SiD process. All relevant stakeholders, such as Operator/Maintainer, must be included as necessary and provided with any updated SiD Health & Safety Risk Assessment.

POST CONSTRUCTION

POST CONSTRUCTION REVIEW

Where appropriate, the Design Manager shall facilitate a Post-Construction meeting, including the Project Manager, Operator/ Maintainer, Contracts Officer and Contractor. Where appropriate, input from the Property Owner/Representative and any other affected party must be considered.

The purpose of the Post-Construction meeting is to review and update the SiD Health & Safety Risk Assessment and determine if any residual risks remain, following implementation of the design.

The Designer shall update the SiD Health & Safety Risk Assessment following completion of the meeting to ensure any relevant residual health & safety risks are recorded and circulate it to all stakeholders involved.

TRANSFER OF INFORMATION TO OPERATIONS TEAM

The Design Manager shall provide the updated Health & Safety Risk Assessment to the Operations team.

The Operations team is then responsible for the ongoing safe operation of asset, including control of any residual risk.

In addition to the SiD Health & Safety Risk Assessment, the Design Manager must provide further detail on the following if it is necessary for the safe use, operation, maintenance or decommissioning of the plant, substance or structure:

- the results of any calculations, analysis testing or examination including, in relation to a substance, any hazardous properties of the substance identified by testing; and
- any conditions necessary to ensure that the plant, substance or structure is without risks to health and safety when used for a purpose for which it was designed or when carrying out any activity

REFERENCES

WATER NEW ZEALAND PROCEDURES & GUIDELINES:

Health and Safety Procedures:

- Contractor Health and Safety Management
- Hazard Identification, Risk Assessment and Control
- Health and Safety Training Program

LEGISLATION, REGULATION AND STANDARDS

- Health and Safety at Work Act of 2015
- Health and Safety at Work (General Risk and Workplace Management) Regulations 2016
- Health and Safety at Work (Worker Engagement, Participation and Representation) Regulations 2016
- Australian Model Code of Practice: Safe Design of Structures (24 July 2012)
- Australian Model Code of Practice: How to Manage Work Health and Safety Risks (7 December 2011)

DECOMMISSIONING, DECONTAMINATION AND DEMOLITION OF PLANT AND ASSETS PROCEDURE

PURPOSE

This procedure describes requirements to ensure safety and health are protected when decommissioning and removing plant and equipment or when remediating land.

The scope of this procedure extends from complete decommissioning, decontamination, removal and remediation of a site and includes the removal of a significant part of an operating plant from service.

It does not refer to the decommissioning of Asbestos Cement (AC) pipe. For further detail on decommissioning and remediation of AC Pipe, refer to the Water New Zealand National Asbestos Cement Pressure Pipe Manual Volume 1 and the BRANZ New Zealand Guidelines for Assessing and Managing Asbestos in Soil.

GENERAL REQUIREMENTS

RESPONSIBLE PERSON

A responsible person shall be nominated to manage any significant decommissioning, decontamination and removal projects and/or the remediation of land.

The person shall be experienced in such work, have a thorough understanding of local regulatory requirements controlling such operations and be available for supervisory tasks and provision of advice and information whenever required.

HEALTH AND SAFETY RISK ASSESSMENT

Prior to any work starting, the organisation shall ensure that a risk assessment is completed that is reflective of the scope and complexity of the decommissioning, decontamination, removal and/or remediation work. The risk assessment team shall include people with sufficient knowledge of the plant, equipment and historical use of the land as required.

The risk assessment shall contain the phases detailed below:

Health and Safety Engineering Assessments

The assessment shall be conducted to:

Assess the structural integrity of the plant and structure and to understand the key design characteristics of the structure. This element of the risk assessment should be conducted with input by suitably qualified and knowledgeable engineers.

Assess the structural integrity of the building during its removal against the contractor's proposed demolition and removal method. This element of the assessment could be conducted with input by the contractor's consulting engineer.

Health and Safety Electrical Assessments

The assessment shall be conducted to:

Identify and mark out the power supply to, and the distribution of power in the work area, in order to assess the isolation requirements and to plan for the relocation or protection of the supply to other areas of plant or equipment. This element of the risk assessment shall include input from qualified electrical engineers, with sufficient knowledge of the electrical supply, including any modifications and additions.

Health and Safety Fire Assessments

The assessment shall be conducted to understand the fire prevention and control measures required in the structure or building to be removed. Temporary changes to fire protection systems might be required. Where appropriate, input and advice may be sought by fire prevention specialist or services.

Health and Safety Asbestos Assessments

The assessment shall be conducted to establish the type (fibre, sheet, gasket, etc.) and distribution of asbestos containing materials. The assessment shall be completed with reference to the organisations asbestos register. The assessment may provide information that should be added to the asbestos register.

Asbestos assessments must be adequate for the purposes of demolition. In some instances additional sampling might be required to supplement the existing documentation. Any asbestos sampling, testing and removal shall be completed by suitable qualified and licenced contractors.

For information on managing Health and Safety aspects of Asbestos Cement (AC) Pipe, refer to the Water New Zealand National Asbestos Cement Pressure Pipe Manual Volume 1 and the BRANZ New Zealand Guidelines for Assessing and Managing Asbestos in Soil.

General Health and Safety Risk Assessment

The assessment shall address the impact of the work on surrounding working areas and activities. This will provide assurance that all hazards are identified and understood, eliminated where practicable or properly controlled.

All outputs and records from risk assessments shall be retained and made available to contractors or other workers. Outputs from risk assessments shall be used to develop safe work methodologies that are documented through JSA or similar operational risk control.

STATUTORY APPROVALS

Prior to commencing work, approvals shall be obtained in relation to all such activities (e.g. Demolition Permit, Development Approval, permits for scheduled/uncontrolled waste removal and disposal). Typical bodies to be consulted or advised could include:

- Local/Regional Councils
- WorkSafe New Zealand
- Telecommunications providers
- Electricity provider
- Water provider
- Gas provider
- Sewer/trades waste/storm water provider
- Traffic authorities (unusual traffic movements)

MANAGEMENT OF WORK

The work shall be overseen and supervised by a person appointed to control the work.

GENERAL RISK CONTROL REQUIREMENTS

Access to these work areas shall be controlled and restricted. This may require security fencing, signage and communication with effected workgroups and/or the public.

Any redundant plant or equipment not inside the fenced area shall be clearly labelled to differentiate between working and redundant equipment. Such equipment shall be secured to prevent accidental use and to prevent it from becoming a hazard to any other operations.

Workers conducting the specific work (for example working at heights) shall be adequately trained and certified to operate equipment.

Appropriate and task specific personal protective equipment shall be used.

Waste generated by the decommissioning shall be managed in accordance with local and statutory disposal and transportation requirements.

Emergency plans shall be prepared to cover any operation during commissioning not routinely conducted on site (e.g. explosive demolition, heavy equipment operation, introduction of new or highly hazardous materials etc.).

Equipment and energy sources shall be isolated and physically locked from re-operation or re-energising prior to decommissioning work starting on adjacent or interconnected plant or equipment.

SPECIFIC DEMOLITION RISK CONTROL REQUIREMENTS

WorkSafe New Zealand have developed detailed and specific best practice guidelines for demolition. All demolition work methods developed by contractors shall be in accordance with the requirements of these best practice guidelines. The guidelines can be accessed via the link below:

http://www.worksafe.govt.nz/worksafe/information-guidance/all-guidance-items/best-practice-guidelines-for-demolition-in-new-zealand/methods-of-demolition

RECORD KEEPING

Records of risk assessments, contractor work methods.

TRAINING REQUIREMENTS

Workers shall be trained to conduct specific tasks associated with decommissioning and demolition of existing plant or equipment, this may include, but is not limited to the following NZQA unit standards.

- 15757: Employ fall-arrest systems on building and construction sites
- 20645: Describe the requirements of the HSNO Act 1996 relevant to approved handlers
- 9184: Erect Non- Notifiable Pre-Fabricated Scaffolding.

RECORDS OF TRAINING

Contractors will be required to provide records of required training and make these available during inspections and audits.

REFERENCES

WATER NEW ZEALAND PROCEDURES & GUIDELINES:

Health and Safety Procedures:

- Contractor Health and Safety Management
- Health and Safety in Design
- Hazard Identification, Risk Assessment and Control
- Job Safety Analysis
- Asbestos Management
- Water New Zealand National Asbestos Cement Pressure Pipe Manual Volume 1
- Health and Safety Training Program
- Site Emergency Response Plans

LEGISLATION, REGULATION AND STANDARDS

- Health and Safety at Work Act 2015
- Health and Safety in Employment Regulations
- Building Act 2004
- Health and Safety in Employment Act 1992
- Resource Management Act 1991
- AS 2601- 1991 The Demolition of Structures

OTHER GUIDELINES:

- BRANZ New Zealand Guidelines for Assessing and Managing Asbestos in Soil

3.5 HAZARD IDENTIFICATION, RISK ASSESSMENT AND CONTROL

The effective, on-going identification and control of hazards is a critical element of the health and safety management program. There are many ways that hazard identification occurs, through workplace reporting and formal hazard studies. Organisations are required to assess the level of risks with hazards in the workplace and to review and maintain risk registers. The content in this section of the guidelines provide information and tools that will enable organisations to ensure this critical aspect of health and safety management can be established.

WorkSafe New Zealand have developed a paper that provides details of their expectations and position in relation to PCBUs risk assessment and control practices, available from their website:

http://www.worksafe.govt.nz/worksafe/information-guidance/all-guidance-items/position-statements/risk-management-at-work

Formal risk assessments must be completed and retained for certain high-risk activities prescribed in regulations 5 to 8 of the Health and Safety at Work (General Workplace and risk Management) regulations 2016. Risk assessments shall be overseen by suitable qualified and experienced people and involve subject matter experts where required.

A risk assessment is also required when:

- how a hazard may cause injury or illness is uncertain
- the work activity involves different hazards, and the workers involved don't know how those hazards interact to produce new or greater risks
- workplace changes may impact on the effectiveness of control measures
- new or different risks are associated with a change in work systems or work location.

Organisations must ensure that workers effected by the activities are involved in the processes to identify hazards, assess associated risks and develop suitable controls.

Control measures must be developed in line with the established "hierarchy of control" and meet the obligations to reduce risks as far as is reasonably practicable. Guidance for establishing controls is included in the procedures and information contained in this section of the Water New Zealand guidelines.

HIERARCHY OF CONTROL

Hierarchy of hazard control is a system used across industries to minimize or eliminate exposure to hazards. It is a widely accepted system supported and promoted by health and safety professionals, legislators and workplace inspectors.

The hierarchy of controls should be used when considering and identifying controls that may be put in place. More effective controls, such as elimination or engineering controls must be applied where reasonably practicable, rather than immediately using lower level controls, such as PPE.

ELIMINATION

Eliminating the hazard—physically removing it—is the most effective hazard control. For example, if employees must work high above the ground, the hazard can be eliminated by moving the piece they are working on to ground level to eliminate the need to work at heights.

SUBSTITUTION

Substitution, the second most effective hazard control, involves replacing something that produces a hazard (similar to elimination) with something that does not produce a hazard—for example, replacing lead based paint with acrylic paint. To be an effective control, the new product must not produce another hazard. Because airborne dust can be hazardous, if a product can be purchased with a larger particle size, the smaller product may effectively be substituted with the larger product.

ENGINEERING CONTROLS

These do not eliminate hazards, but rather isolate people from hazards. Capital costs of engineered controls tend to be higher than less effective controls in the hierarchy, however they may reduce future costs. For example, a crew might build a work platform rather than purchase, replace, and maintain fall arrest equipment. “Enclosure and isolation” creates a physical barrier between personnel and hazards, such as using remotely controlled equipment. Fume hoods can remove airborne contaminants as a means of engineered control.

ADMINISTRATIVE CONTROLS

Administrative controls are changes to the way people work. Examples of administrative controls include procedure changes, employee training, and installation of signs and warning labels. Administrative controls do not remove hazards, but limit or prevent people’s exposure to the hazards, such as completing road construction at night when fewer people are driving.

PERSONAL PROTECTIVE EQUIPMENT

Personal protective equipment (PPE) includes gloves, respirators, hard hats, safety glasses, high-visibility clothing, and safety footwear. PPE is the least effective means of controlling hazards because of the high potential for damage to render PPE ineffective. Additionally, some PPE, such as respirators, increase physiological effort to complete a task and, therefore, may require medical examinations to ensure workers can use the PPE without risking their health.

HEALTH AND SAFETY RISK ASSESSMENT AND CONTROL PROCEDURE

PURPOSE

To enable organisations to complete and document health and safety risk assessments in a uniform and consistent manner.

The procedure also contains information relating to the appropriate selection and consideration of control measures for identified risks.

GENERAL REQUIREMENTS

The development and management of an organisational risk register enables the formal identification and quantification of key Health and Safety risks. The risk register and review process will enable treatments and interventions to be tracked and reported on.

The Health and Safety risk register details key Health and Safety risks associated with the organisation's activities. The risk management process uses the S.A.F.E.R approach to identifying and managing hazards and risks.

- See it to identify and categorise hazards
- Assess it to assess and rate the possibility of hazards causing harm
- Fix it to control the identified hazards
- Evaluate it to re-assess the potential harm after controls have been put in place
- Review it to review the effectiveness of the controls implemented

In addition to the risks detailed on organisational risk register, ongoing site specific hazard identification and risk assessment will be undertaken through the development of hazard profiles and JSAs. Refer to the Hazard Identification, Risk Assessment and Control procedure for more detail and information.

The organisation should ensure that a formal risk assessment is completed and maintained when:

- Knowledge of how a hazard may cause injury or illness is uncertain.
- The work activity involves multiple hazards, and the workers involved are not aware how those hazards interact to produce new or greater risks.
- Workplace changes may impact on the effectiveness of existing control measures.
- New or different risks are associated with a change in work systems, activities or work location.

RISK ASSESSMENT PROCESS

The organisation shall undertake a risk assessment process that covers the entire scope of operations and activities. The risk assessment shall include input and representation from workers involved in the activities, specialist subject matter experts, the health and safety manager and their team (if applicable).

The initial, organisational wide risk assessment will be captured and recorded on the health and safety risk register. This register is used to:

- Provide information and oversight to management teams and executive about the nature and management of critical risks.
- Inform the health and safety committee of the status of health and safety risks and controls.
- Develop and monitor additional controls for activities with less than acceptable residual risk ratings.

The risk register shall include specific identification and flagging of critical risks. These are the risks that have been identified as being of having significant consequence. Critical risk areas and controls shall be reviewed by the organisations health and safety strategic management group. Where incidents or near misses occur that involve critical risks, additional controls and preventative measures implemented shall be communicated to the organisation's management team and Health and Safety Committee via monthly health and safety reports. Inspection and audit activities shall be undertaken to enable the management team to be provided with assurance that effective controls are in place and are effective.

The Risk Register is reviewed and updated:

- After incidents or near misses that involve high risks, both within the organisation's activities and if relevant within the New Zealand water industry.
- On a six monthly basis as part of wider project risk reviews.
- To incorporate the recommendations of any audits conducted internally or by external parties.
- To incorporate any additional controls that have been identified and implemented through worker engagement and consultation processes.

RISK RATING AND DESCRIPTORS

The risk register template, included at the end of this procedure, provides a model risk rating matrix and associated risk descriptors. Where organisations have established enterprise wide risk matrices and descriptors, these should be used in the health and safety risk assessment process.

HEALTH AND SAFETY IN DESIGN

Health and Safety in design outcomes shall be captured and recorded on the risk register and be used to track and transfer information relating risk control measures through the design, construction and asset operation phases.

Activities and workshops (e.g. Health and Safety in Design) to identify risks at design, construction and operational stages will involve input from effected workers to ensure on-going consultation and engagement. The risk register shall be made available for discussion and review by the Health and Safety Committee as part of the monthly agenda.

Refer to the Water New Zealand Health and Safety in Design procedure for more detail and information.

Figure 1: Risk Assessment Table

Risk Assessment Tables

The following matrix is then used to determine the appropriate magnitude for each risk

		Consequence (C)				
		Insignificant	Minor	Moderate	Major	Severe
Likelihood (L)		1	2	3	4	5
Almost Certain	5	Low	Medium	High	Very High	Very High
Likely	4	Low	Medium	High	High	Very High
Possible	3	Low	Medium	Medium	High	High
Unlikely	2	Low	Low	Medium	Medium	High
Rare	1	Low	Low	Low	Medium	Medium

Risk Response	
Rating	**Required Response**
Very High	Preferred treatment options: avoid, transfer or mitigate. Requires immediate escalation and active management through continual monitoring. Review treatment strategies systematically to determine their adequacy and effectiveness against the required outcomes. Further controls are needed unless impractical or financially non-viable.
High	Preferred treatment options: avoid, transfer or mitigate. Requires escalation through routine reporting and active management through systematic monitoring. Review treatment strategies routinely to determine their adequacy and effectiveness against the required outcomes. Additional controls may be required to protectorganisations interest and business.
Medium	Preferred treatment options: mitigate or accept. Manage by specific monitoring or response procedures, with clear management responsibility.
Low	Preferred treatment options: accept. Manage by existing routine procedures and work practices.

Figure 2: Risk Consequence and Likelihood Descriptors

C = Consequence	Score	Description	
Insignificant	1	No or only minor personal injury; First Aid needed but no days lost	
Minor	2	Minor injury; Medical treatment & no time lost	
Moderate	3	Injury; Possible hospitalisation & days lost	
Major	4	Single death &/or long-term illness or multiple serious injuries	
Severe	5	Multiple Fatality(ies) or permanent disability or ill-health	

L = Likelihood	Score	Description	Estimated Probability
Rare	1	May occur in rare circumstances only	< 2%
Unlikely	2	Is unlikely to occur in the current operational environment	2-20%
Possible	3	Will possibly occur in the current operational environment	21-60%
Likely	4	Is likely to occur in the current operational environment	61-90%
Almost Certain	5	Almost certainly will occur	> 90%

RISK CONTROL

Risk must be controlled to as low as reasonably practicable in line with the hierarchy of control. The hierarchy of hazard control is a system used across industries to minimize or eliminate exposure to hazards. It is a widely accepted system supported and promoted by health and safety professionals, legislators and workplace inspectors.

The hierarchy of controls should be used when considering and identifying controls that may be put in place. More effective controls, such as elimination or engineering controls must be applied where reasonably practicable, rather than immediately using lower level controls, such as PPE.

Elimination

Eliminating the hazard—physically removing it—is the most effective hazard control. For example, if employees must work high above the ground, the hazard can be eliminated by moving the piece they are working on to ground level to eliminate the need to work at heights.

Substitution

Substitution, the second most effective hazard control, involves replacing something that produces a hazard (similar to elimination) with something that does not produce a hazard—for example, replacing lead based paint with acrylic paint. To be an effective control, the new product must not produce another hazard. Because airborne dust can be hazardous, if a product can be purchased with a larger particle size, the smaller product may effectively be substituted with the larger product.

Engineering Controls

These do not eliminate hazards, but rather isolate people from hazards. Capital costs of engineered controls tend to be higher than less effective controls in the hierarchy, however they may reduce future costs. For example, a crew might build a work platform rather than purchase, replace, and maintain fall arrest equipment. "Enclosure and isolation" creates a physical barrier between personnel and hazards, such as using remotely controlled equipment. Fume hoods can remove airborne contaminants as a means of engineered control.

Administrative Controls

Administrative controls are changes to the way people work. Examples of administrative controls include procedure changes, employee training, and installation of signs and warning labels. Administrative controls do not remove hazards, but limit or prevent people's exposure to the hazards, such as completing road construction at night when fewer people are driving.

Personal Protective Equipment

Personal protective equipment (PPE) includes gloves, respirators, hard hats, safety glasses, high-visibility clothing, and safety footwear. PPE is the least effective means of controlling hazards because of the high potential for damage to render PPE ineffective. Additionally, some PPE, such as respirators, increase physiological effort to complete a task and, therefore, may require medical examinations to ensure workers can use the PPE without risking their health.

ATTACHMENTS

Attachment 1: Risk Register Template

REFERENCES

WATER NEW ZEALAND PROCEDURES & GUIDELINES:

Health and Safety Procedures:

- Contractor Health and Safety Management
- Job Safety Analysis
- Health and Safety in Design

LEGISLATION, REGULATION AND STANDARDS

- Health and Safety at Work Act 2015
- AS 4804 - 1997 Occupational health and safety systems - General guidelines on principles, systems and supporting techniques.
- AS/NZS 31000 - 2009 Risk Management

HEALTH & SAFETY RISK REGISTER

RISK MATRIX							
REF	CATEGORY	HAZARD	CAUSE & CONSEQUENCE	EXISTING CONTROLS	L	C	LR

PROPOSED & APPROVED MITIGATION MEASURES				MITIGATED RISK AND RESOLUTION			
PROPOSED CONTROL (1 ELIMINATE, 2 SUBSTITUTE, 3 REDUCE, 4 CONTROL)	L	C	LR	RISK OWNER	CLIENT APPROVED	DESIGN STATUS	DATE

RESIDUAL RISK	
RISK OWNER	ACTION REQUIRED

JOB SAFETY ANALYSIS PROCEDURE

PURPOSE

This procedure outlines the process to develop and complete a Job Safety Analysis (JSA) prior to starting a work task. JSA is a process where health and safety hazards associated with each step of a task are identified and control measures are developed, recorded and monitored.

REQUIREMENTS FOR DEVELOPING JOB SAFETY ANALYSIS

Job Safety Analysis (JSA) shall be developed and approved prior to commencing any job which:

- Will not be managed in accordance with a proven procedure or work instruction
- Could introduce hazards not normally present (for example, deep excavation adjacent to fence requiring repair)
- Could involve significant risk to workers performing the job, or in adjacent areas (for example, welding in an elevated area)
- Where the complexity of the job poses additional risks (for example, installation of a new piece of plant)
- Potential for severe injuries or illnesses: the consequences of an accident, hazardous condition, or exposure to harmful products are potentially severe
- Newly established jobs: due to lack of experience in these jobs, hazards may not be evident or anticipated
- Modified jobs: new hazards may be associated with changes in job procedures or tasks
- Infrequently performed jobs: workers may be at greater risk when undertaking non-routine jobs, and a JSA provides a structured means of reviewing hazards and controls

SPECIFIC ACTIVITIES REQUIRING JOB SAFETY ANALYSIS

A JSA should be completed before any work involving the activities below is commenced:

- Working at Heights
- Confined Space Work
- Working in and Around Water
- Working with Mobile Plant or Equipment
- Working with Asbestos Containing Material
- Construction or Demolition Work

DEVELOPMENT OF JOB SAFETY ANALYSIS

JSA TEAM

The responsible person shall ensure that the team selected to develop the JSA includes include representatives from the people performing the job, people who control the relevant work area(s) and people with specialist expertise in management of the hazards involved (e.g. the relevant Engineers). A person is nominated as the JSA Team Leader, typically this may be the area supervisor, or team leader.

Where contractors are undertaking work, they will be required to complete JSA in accordance with this requirements and standards or this procedure. Contractors' JSA shall be approved by responsible person prior to work commencing.

1.2.2 INFORMATION REQUIRED FOR JSA DEVELOPMENT

The responsible person shall ensure that relevant and applicable supporting documentation is available to the Job Safety Analysis Team, this information may include:

- A description of the overall job to be analysed.
- Where available, a detailed breakdown of the steps involved.
- A list of the people/workgroups involved, including identification of any people with specialist expertise required to complete the work.
- Layout drawings and/or photographs of the areas involved.
- Piping and Instrumentation Diagrams (P&ID), mechanical drawings, photographs and/or safe operating limits for all relevant sections/pieces of plant.
- MSDS for any hazardous substances or dangerous goods involved.
- A brief description of any incidents known to have occurred during the same or similar activities (including incidents on other company sites).
- Other relevant risk assessments performed previously (e.g. Plant risk assessment, Confined Space assessments, etc.)

DEVELOPMENT OF JOB SAFETY ANALYSIS

The JSA Team reviews the information and any relevant codes of practice and standards for the job to be analysed. The JSA development commences with a detailed description of the activities to be analysed being recorded on the JSA worksheet, which is provided as an attachment to this procedure.

The JSA Team then analyses:

- what steps/tasks will be performed to complete the job;
- for each step, what could go wrong and what could cause it to go wrong;
- how can the job be made safer;
- considering the identified hazards and control measures to be applied;
- what is the residual level of risk associated with the job;
- are there any additional measures which could be practicably be applied to further reduce the risk;
- Is the risk level acceptable?

The JSA Team Leader ensures the job is broken down into logical steps for analysis, to the extent required to provide confidence that no significant hazards have been overlooked. The JSA Team considers the tasks, equipment and materials associated with each step and identifies any potential hazardous events which could occur. Identification of potential hazardous events also considers the potential impacts both to and from other activities being performed in the area / at the same time (e.g. people working in the area falling into an excavation).

JSA Prompters

The prompters below may be used to assist in the development of the JSA:

Could any potential hazardous events impact on, or result from other activities being performed in the area and/or at the same time:

- people working in the area at the time of the work or subsequently
- neighbouring or remote activities being performed at the same time
- Remote activities performed at different times to the work.

Ask "what if":

- the person drops a tool/object
- the person slips
- the person makes a mistake / error of judgement
- equipment has not been fully purged / de-pressurised
- there is a 'Loss of Containment" of a Hazardous Substance in the area
- a tool or piece of equipment fails
- the structure collapses
- critical systems are disabled (e.g. fire alarm/fighting systems)

Table 1 Potential Hazardous Events

KINETIC ENERGY
Impact from moving/falling objects
Impact from flying particles/projectiles
Impact from / against sharp objects
Crushing from moving equipment / tools
Damage / injury from incorrect or faulty tools
Entanglement with moving parts
Mechanical equipment failure or roll over
Control system failure
Collision of vehicles / mobile plant
Manual handling strain / over exertion
Repetitive strain / occupational overuse injury
Vibration injury / damage / complaint
Noise exposure / complaint
POTENTIAL ENERGY
Sudden release of mechanical energy
Over pressure / low pressure damage
Structural collapse
Falling / slipping / tripping
Manual handling or repetitive strain
Entrapment / engulfment / cave-in
THERMAL ENERGY
Fire and/or explosion
Contact with hot / cold surfaces
Overheating / freezing
ELECTRICAL ENERGY
Electrocution
Static electricity discharge
Short circuit (over current)
Wiring failure / incorrect wiring
Electrical equipment failure
CHEMICAL ENERGY
Exposure to hazardous substances
~ skin absorption
~ ingestion
~ inhalation
Asphyxiation
Chemical reaction
Chemical contamination
Release of flammable / combustible materials
Release of environmentally hazardous substances
Release of odours
Dust Exposure
Release / contact with asbestos / Synthetic Mineral Fibres
Water damage
Inappropriate waste collection, storage or disposal

RADIATION

Exposure to:

- ionising radiation
- electromagnetic radiation
- ultra violet radiation

BIOLOGICAL HAZARDS

- Exposure to biological hazards or infectious diseases
- Aggravation of a medical condition
- Contact with hazardous flora/fauna

NATURAL EVENTS

- Wind damage
- Lightning strike
- Earthquake
- Flooding
- Landslide/rock fall
- Ground Subsidence

SECURITY INCIDENTS

- hostile action
- theft / fraud
- loss / corruption of data

RISK CONTROL MEASURES

The JSA Team agrees measures to reduce the likelihood of each event and/or the seriousness of its likely consequences, taking into consideration their foreseeable causes. Risk control measures are selected in the following order of preference:

1. Elimination of the hazard.
2. Substitution of the hazard with less hazardous equipment, materials and/or processes.
3. Reduction of the risk through engineering controls (e.g. guarding).
4. Reduction of the risk through administrative controls (e.g. safe work procedures, signs, removal of people from the area, etc.).
5. Reduction of the risk through personal protective equipment.
6. Reduction of the risk through behavioural controls (i.e. reliance on awareness of hazards and personal judgement regarding actions to reduce the associated risks).

The JSA Team ensures the control measures selected include appropriate measures to control the risk from any override/ removal of other control systems (e.g. temporary disabling of fire detection/alarm systems)

The JSA Team also identifies any legislative or other specific control measures and/or specific risk assessment techniques to be applied to the particular tasks involved in each step, for example the requirement to complete a Confined Space Entry Permit.

REVIEW AND UPDATE OF JSA

The JSA should be reviewed on at least a weekly basis and workers resign onto the JSA after it is reviewed.

The JSA must also be reviewed and updated and re-communicate to workers:

- when the work or work environment changes from the scope or conditions reflected in the JSA.
- after any hazards, near misses or incidents associated with the tasks are reported.

CLOSE OUR OF JSA

Upon completion of the task, the JSA shall be closed out by the responsible person. This involves physically marking the JSA worksheet as completed and ensuring it is not possible for it to be re-used.

RECORD KEEPING

Where required, the completed, closed out JSA shall retained with other records of the task, such as inspection and test plan results or permits.

TRAINING REQUIREMENTS

Supervisors, team leaders or other workers required to act as JSA team leaders shall receive appropriate training to complete and maintain JSAs in line with the requirements of this procedure.

RECORDS OF TRAINING

Persons in control of the workplace shall maintain records of confined space training and make available during inspections and audits.

REFERENCES

WATER NEW ZEALAND PROCEDURES & GUIDELINES:

Health and Safety Procedures:

- Contractor Health and Safety Management
- Health and Safety Training Program
- Hazard Identification, Risk Assessment and Control
- Confined Space Entry
- Working at Heights

LEGISLATION, REGULATION AND STANDARDS

- Health and Safety at Work Act 2015
- Health and Safety in Employment Regulations 1995

JOB SAFETY ANALYSIS (JSA) WORKSHEET

LOCATION/ SITE:		**JOB PLAN / SHEET** (if applicable)		**JSA NO:**	
COMPANY NAME (CONDUCTING WORK):					
WORK ACTIVITY / JOB / TASK OR ACTIVITY DESCRIPTION				**DATE JSA DEVELOPED:**	
NAME OF EMPLOYEES INVOLVED IN INITIAL JSA DEVELOPMENT:					
AUTHORISING PERSON: (PRINT)		**SIGNATURE:**		**DATE OF AUTHORISATION:**	

S: Safety **E:** Environment	**CONSEQUENCE**		
LIKELIHOOD	**S:** Onsite treatment (first aid) **E:** Minor impact (onsite)	**S:** Offsite treatment (Medical) **E:** Minor impact (offsite)	**S:** Fatality or permanent injury **E:** Major impact (onsite/offsite)
Almost Certain (Will probably occur)	**CHECK**	**STOP**	**STOP**
Possible (May occur, has happened)	**START**	**CHECK**	**STOP**
Unlikely (could occur - known to happen)	**START**	**START**	**CHECK**

ACTION TABLE			
Uncontrolled Risk Level	What do we need to do?	Controlled Risk Level	What should happen next?
STOP	Hazards must be eliminated or the uncontrolled risk level reduced through substitution, isolation, engineering or a design change.	**STOP**	TASK MUST STOP The task CANNOT proceed until company has agreed to what (IF ANY) further controls must be applied.
CHECK	Ensure that the highest possible controls have been applied (e.g., elimination, substitution, isolation, engineering, several administrative controls and PPE).	**CHECK**	TASK MUST BE CHECKED COMPANY MUST review controls and ensure they are appropriate and effective before the task can start.
START	The Supervisor or equivalent MUST review the controls and ensure they are appropriate and effective before the task can start.	**START**	TASK MAY START Continually review controls are in place and working effectively.

ACTIVITY / TASK SEQUENCE	HAZARDS	UNCONTROLLED RISK LEVEL	CONTROLS	UNCONTROLLED RISK LEVEL	WHO WILL DO THIS?
Break the job down into tasks. Each task should accomplish some major activity and be in a logical sequence.		STOP	• Work in Adjacent Areas • Licenses, Qual's, Permits • Training requirements • Approvals, Plans & Permits • Maintenance / Inspection • Safety Equipment • PPE • MSDS	STOP	Wherever possible list who specifically (by name) and when this needs to be done.
		CHECK		CHECK	
		START		START	

WORK DIAGRAM (IF APPLICABLE)

E.g., sketch or attach relevant diagrams or drawings of task hazards such as services, other plant or equipment, hazardous areas, environmental considerations etc.).

WORKER NAME	SIGNATURE (I have been consulted in and understand this JSA)	DATE	EMPLOYEE NAME	SIGNATURE (I have been consulted in and understand this JSA)	DATE

Note: Attach additional signature pages if necessary.

REVIEW NO:	1	2	3	4	5	6	7	8	9	10
Date:										
Initial:										

Note: JSA's must be reviewed at a minimum weekly.

JSA AMENDMENT REASON/DETAILS	CHANGE MANAGEMENT ACTIONS (e.g., actions taken to communicate changes)	DATE

HEALTH AND SAFETY RISK REGISTER TEMPLATE

RISK I.D.	ACTIVITY	HAZARDS	MAXIMUM CREDIBLE IMPACT	RISK ASSESSMENT WITHOUT CONTROLS			RISK CONTROLS	POST CONTROL RISK ASSESSMENT			COMMENTS
				Consequence	Likelihood	Risk Ranking		Consequence	Likelihood	Risk Ranking	

3.6 COMMUNICATION AND CONSULTATION

Consultation on health and safety is a two-way process and should be seen as an opportunity to add value when making decisions. This process involves:

- talking about issues
- listening to and raising concerns
- understanding your role
- seeking information and sharing views
- discussing issues in a timely manner
- considering what is being said before decisions are made
- attending scheduled meetings.

Participation in consultation provides workers with an opportunity to think constructively about health and safety issues that affect them, contribute ideas for improvement, and work as a team in implementing good workplace safety practices.

There are number of specific situations when managers and senior leaders should consult with workers, such as:

- identifying hazards and assessing risks arising from work.
- making decisions about ways to eliminate or minimise those risks.
- proposing changes that may affect the health and safety of workers.
- making decisions about the procedures for resolving health and safety issues.

As well as formal consultation practices, workers have a vital role in communication. On any normal working day workers communicate on a number of different levels, for example:

- talking to other team members
- seeking support and guidance from friends and other colleagues
- discussing work practices and other issues with managers
- using the internet and intranet to gain updates and information

To ensure that communication is effective in the workplace, organisations should use all the available and established channels to capture ideas and concerns about health and safety.

Workers can use the following ways to ensure they are contributing to effective communication:

- contribute at meetings
- access and seek information from intranet and notice boards
- use emails to clarify, and provide a two way communication approach
- establish an open and constructive approach to talking to colleagues and mangers
- consider the barriers to communication in remote and isolated work locations (e.g shift work, working alone, isolated by distance or team support, working from home) make contact daily where possible.

BARRIERS TO EFFECTIVE CONSULTATION

There are many barriers to how we communicate and consult with each other in the workplace. Finding the right time and delivering messages in the right way can be a challenge. Workers should establish a relationship with their manager that encourages open and honest discussion and mutual trust. Consultation often fails due to:

- lack of clarity of message
- absence of emotional resonance in your messages
- inaccurate targeting
- poor timing
- no genuine feedback process.

TIPS TO REDUCE BARRIERS THROUGH BETTER COMMUNICATION:

- engage people on an emotional level
- provide clear messages with concrete examples to help people focus their energies
- think about what you say and how you say it (is what you are saying aligned with what your are feeling and thinking?)
- written material should be backed up by verbal communication
- check the tone of the communication (edit, edit and edit again)
- some news is better than no news
- let people know the status of what is happening

The processes and tools contained in this section of the guidelines will enable the organisation to implement effective methods to ensure effective health and safety communication.

HEALTH AND SAFETY CONSULTATION AND COMMUNICATION PROCEDURE

PURPOSE

To provide information and guidance to ensure appropriate and effective worker consultation is undertaken regarding any matters that may impact or effect health and safety.

GENERAL REQUIREMENTS TO CONSULT WORKERS

WORKER ENGAGEMENT AND PARTICIPATION

Health and safety performance outcomes benefit significantly with input and participation from workers. It has been established that worker participation in health and safety planning, development of risk controls and corrective actions generates improved outcomes and contributes to an engaged and positive health and safety culture.

LEGAL OBLIGATIONS FOR WORKER PARTICIPATION AND CONSULTATION

The organisation must engage with workers who carry out work for them, on health and safety matters that may directly affect them.

The organisation must have practices that provide its' workers reasonable opportunities to participate effectively in improving health and safety in the business or undertaking, on an ongoing basis.

Worker engagement and worker participation practices can be either direct or through representation.

Health and Safety Representatives and Health and Safety Committees are two well established methods of representation. Details relating to the establishment of committees and representatives is contained in the Health and Safety Committees and Representatives Procedure.

Businesses have health and safety duties to all workers and others affected by their work, i.e. not just those they directly employ or engage as contractors.

When the work of two or more businesses overlap, they must communicate, consult, cooperate and coordinate activities to meet their health and safety responsibilities to workers and others.

EFFECTIVE CONSULTATION

Consultation on health and safety is a two-way process and should be seen as an opportunity to add value when making decisions. This process involves:

- talking about issues
- listening to and raising concerns
- understanding roles
- seeking information and sharing views
- discussing issues in a timely manner
- considering what is being said before decisions are made
- attending scheduled meetings

CONSULTATION METHODOLOGIES

There are number of situations when managers and senior leaders should consult with workers, such as:

- Identifying hazards and assessing risks arising from work
- Making decisions about ways to eliminate or minimise those risks
- Proposing changes that may affect the health and safety of workers
- Making decisions about the procedures for resolving health and safety issues

Consultation, and worker participation in the decision making process, can be achieved through established HSCs or other established meetings and communication forums that the organisation has in place, for example:

- Regularly scheduled Toolbox meetings
- Daily planning or pre-start meetings
- Emails and suggestion boxes to capture requests for feedback or ideas
- Working groups to address specific health and safety issues

RECORDS OF CONSULTATION

All consultation and worker participation activities must be recorded and records retained as evidence of meeting consultation obligations. Records may include, meeting minutes, emails or reports from working groups.

HEALTH AND SAFETY COMMITTEES AND REPRESENTATIVES PROCEDURE

PURPOSE

To provide information and guidance for the establishment and function of Health and Safety Committees and the selection and training of health and safety representatives.

GENERAL REQUIREMENTS

PURPOSE OF HEALTH AND SAFETY COMMITTEE

Health and Safety Committees (HSC) are an established mechanism to ensure a functional connection between workers and management. They are a primary method of consultation and engagement and meet requirements to have practices that give workers reasonable opportunities to participate effectively in improving health and safety.

LEGAL OBLIGATIONS TO ESTABLISH HEALTH AND SAFETY COMMITTEES

The organisation must consider forming an HSC if it receives a request from five or more workers or a Health and Safety Representative. If the organisation is satisfied that existing consultation and engagement processes are effective and meet the requirements of the HSWA 2015 then it does not have to proceed with the establishment of HSCs. Information relating to consultation and engagement mechanisms can be found in the Health and Safety Consultation and Communication Procedure.

If a HSC is established then the organisation must ensure that it:

- Consults with the HCS about health and safety matters
- Allows each member of the HSC to spend as much time as necessary to attend meetings or carry out functions as a member of the Committee
- Provides the HSC with the necessary information to perform its functions, including information relating to hazards and the health and safety of workers at the workplace.

Organisations may voluntarily establish HSCs of their own accord.

ESTABLISHMENT OF HEALTH AND SAFETY COMMITTEE

FUNCTION OF HEALTH AND SAFETY COMMITTEES

Health and Safety Committees are an established mechanism for management and workers to cooperate and enable the effective:

- Development of health and safety procedures, policies and requirements
- Review of incident investigations and tracking of agreed corrective actions
- Development of major initiatives and programmes to improve health and safety that can be presented to the Health and Safety Strategic Group
- Communication between different work locations/ environments and teams
- Representation of workers in health and safety decisions making processes

COMMITTEE ESTABLISHMENT

Organisations shall establish a Health and Safety Committee that includes representation from all functions, including (but not limited to):

- Administration and Corporate Support Services
- Treatment plant operations
- Asset maintenance and field service operations
- Workshop and mechanical servicing operations

If required, or as appropriate to the size of the organisation, sub committees may be established for the identified functional areas. In such instances, the organisation shall ensure that sub committees are formed to represent workers with common activities and risks and that the sub committees represent a sufficiently large group of workers to allow effective election of representatives.

The sub committees shall reflect the workgroups that the organisation has established. Workgroups will vary from organisation to organisation, depending on their size, nature of operations and location of workers.

Where workgroups are established an elected health and safety representative must be available for workers to access.

Schematic Example of Health and Safety Committee (HSC) Structure

COMMITTEE MEMBERSHIP

The Organisational HSC shall be comprised of a mix of management and workers' health and safety representatives. The composition of the committee shall be balanced to ensure that there is equal representation of workers and management.

Where the organisation has established a structure of sub-committees the organisational committee shall be comprised of management and worker representatives from each of the sub committees.

COMMITTEE MEETINGS

The organisational HSC shall meet as a minimum every 3 months. The meetings shall be arranged by the HS Manager (or equivalent) and appointments sent to members at least a week prior to the meeting.

The agenda shall be prepared and distributed at least a week prior to the meeting. A Model agenda template is provided as attachment 1 to this procedure.

HSC meetings must have a quorum of at least 6 members (3 management and 3 worker representatives) to meet. Meetings may proceed where there are greater numbers of worker representatives than management representatives, but not vice versa.

HEALTH AND SAFETY REPRESENTATIVES

ELECTION OF HEALTH AND SAFETY REPRESENTATIVES

Health and Safety Representatives (HSRs) will need to be elected to represent the workgroups the organisation has established. Any worker can nominate for election providing they:

- are a worker and a member of the work group electing an HSR
- are willing to act as an HSR, and
- work regularly and for enough hours to act effectively as an HSR

The election processes follows the processes below:

CALL FOR NOMINATIONS FOR HSRS

NOMINATIONS RECEIVED FROM POTENTIAL HSRS

ELECTION CONDUCTED TO DETERMINE HSR FOR WORKGROUP

NOTIFICATION TO SUCCESSFUL CANDIDATE AND WORKGROUP

ELECTION FORMAT

Unless a candidate, a member of the work group' or management requests to have a secret ballot, an election can take any form that is agreed with workers and is appropriate for the organisation.

The election can be run by management, a worker or groups of workers or an established worker representative like a union representative.

If there is only one nomination for the HSR position, then no election needs to be undertaken.

TRAINING OF HEALTH AND SAFETY REPRESENTATIVES

The organisation shall ensure that elected HSRs receive appropriate training in accordance with regulated requirements. If HSRs do not receive recognised training they may still act as HSRs, but will not be able to exercise full powers, such as to issue Provisional Improvement Notices.

Full details of training requirements, payment and time allowances can be found on the Health and Safety Representatives section of the WorkSafe NZ website:

http://www.worksafe.govt.nz/worksafe/hswa/working-together/representation/health-and-safety-representatives-hsrs/training-requirements

ATTACHMENTS

Attachment 1 - Model HS Committee Agenda

REFERENCES

WATER NEW ZEALAND PROCEDURES & GUIDELINES:

Health and Safety Procedures:

- Health and Safety Communication and Consultation

LEGISLATION, REGULATION AND STANDARDS

- Health and Safety at Work Act 2015
- Health and Safety at Work (General Risk and Workplace Management) Regulations 2016
- Health and Safety at Work (Worker Engagement, Participation and Representation) Regulations 2016
- AS4801:2001, Clause 4.4.3

HEALTH AND SAFETY COMMITTEE AGENDA ATTACHMENT 1

Meeting Title:		Health, Safety and Wellbeing Committee Meeting	
Purpose:		Discussion and Progression of Health, Safety and Wellbeing Issues	
Time:		Date:	Location:

Attendees:			
Apologies:			
Chaired By:		Minuted:	

ITEM		TOPIC	LEAD	TIMEFRAME
1	Previous Meeting Minutes and Action Register		Chair	
	A	Acceptance of Minutes		
	B	Outstanding Actions		
2	Health and Safety Performance		Chair	
	A	Statistical Performance		
	B	Review of Incidents		
	C	Results of Inspections and Audits (Zone)		
	D	Improvement Opportunities (Zone)		
3	HS Update		HS Team	
	A	Activities and Projects		
	B	Project Trends and Learnings		
	C	Industry, Legislation and AS/NZ Standards Update		
4	Site HS Updates		Site team leaders	
	A	By Site Location		

3.7 HEALTH AND SAFETY REPORTING

The information contained in this section of the guidelines is to enable organisations to establish performance reporting frameworks that can be used to:

- Understand activities and hazards that may require further risk assessment and controls to be developed.
- Undertake benchmarking studies across the industry.
- Meet mandatory health and safety performance reporting requirements.
- Provide input to governance and due diligence assurance reporting.

The framework for performance reporting in the guidelines contain a model to develop a balanced scorecard of lead and lag performance indicators that will enable effective visibility of health and safety performance by senior leadership

Organisations are required to report serious incidents and near misses to WorkSafe. Details of these reporting requirements may be obtained from WorkSafe New Zealand, from the link below:

http://www.worksafe.govt.nz/worksafe/notifications-forms/notifiable-events

Safe Work Australia publication "The Measurement and Reporting of Work Health & Safety Performance" provides a detailed review and case study examples of health and safety performance reporting. The report is available from the link below:

http://www.safeworkaustralia.gov.au/sites/SWA/about/Publications/Documents/834/Issues-Measurement-Reporting-WHS-Performance.pdf

INCIDENT REPORTING AND INVESTIGATION PROCEDURE

PURPOSE

This procedure provides guidance and information to enable the prompt reporting and investigation of health and safety incidents.

GENERAL REQUIREMENTS

INCIDENT REPORTING SCOPE

All health and safety incidents that occur, including near misses, must be reported at the earliest opportunity, immediately where possible.

This includes incidents involving the organisation's employees and/or contractors working for the organisation.

REPORTING INCIDENTS

All incidents and near misses that cause harm to people or damage to property, or that in different circumstances might have caused harm or damage (near misses), and involve staff, contractors, visitors, consultants or members of the public, are to be reported and investigated to enable action to be taken to prevent any reoccurrence.

Incidents may be initially reported by workers verbally to supervisor or manager, who report the incident verbally to their health and safety manager at the earliest opportunity.

An Incident report must then must completed and forwarded to the health and safety manager within 24 hours. The report shall include:

- Date, location and time of accident
- Name of injured person (if known)
- Names of other witnesses (if known)
- Type of injury
- Part of body injured
- Source or cause of injury
- Any damage to equipment or plant
- What was sited at the event.

A sample health and safety incident report form is provided as Attachment one to this procedure.

SERIOUS INCIDENTS AND NOTIFIABLE EVENTS

In the event of a serious harm incident, or near miss, the responsible supervisor, team leader or manager shall:

- Ensure the relevant emergency services have been called
- Ensure the emergency alarm has been activated as appropriate
- Preserve the incident scene as soon as possible. Only interfere with the incident scene if essential to provide first aid or to prevent the situation from escalating
- Notify the Health and Safety Manager/Team as soon as reasonably practicable to determine if the incident is reportable to WorkSafe NZ as a Notifiable Event
- Follow the steps outlined in the 'Assistance at incident scene' section below

INCIDENT RESPONSE

PROVISION OF FIRST AID

If an incident occurs which requires more than minor attention, then assistance shall be sought from the First Aid certified workers in each location. No matter how minor, details of the injury should be recorded on the Incident Report Form.

ASSISTANCE AT INCIDENT SCENE

Note: It is an offence to interfere with an incident scene where a Notifiable Event has occurred, except in special circumstances as stated in the relevant legislation. The health and safety manager will notify the relevant statutory authority when this is required.

If a worker witness an incident, they should:

- Not put themselves at risk and ensure that nobody else is at risk before attempting to offer assistance
- Warn others of potential danger
- Send for help as soon as possible
- Provide assistance and First Aid within the limits of their ability
- Continue to provide assistance until someone with higher skills can take over.

After assistance has been provided, witnesses recollections should be recorded at the earliest opportunity (while the details are still clear memories) using the Incident Report Form.

INCIDENT INVESTIGATION

The health and safety manager will classify the incident once the report is received. The classification will be for both the actual incident and the potential outcome of the incident. The potential outcome classification shall be used to determine the level of investigation undertaken.

INCIDENT SEVERITY CLASSIFICATION

INCIDENT LEVEL	DEFINITION
1	Causes (1A) or has the potential (1P) to cause no injury or First Aid Treatment. Incident allows person to carry out normal duties.
2	Causes (2A) or has the potential (2P) to cause Medical Treatment Injury. Offsite medical treatment that results in no time (shift or day) lost and allows person to return to normal duties.
3	Causes (3A) or has the potential (3P) to cause Lost Time Injury. Offsite medical treatment that results in time (shift or day) lost before person is able to return to normal duties.
4	Causes (4A) or has the potential (4P) to cause Serious Injury. Incident which permanently alters the future of the person (fatality, quadriplegia, amputee, disabled back or psychological disturbance).

Actual Consequence: The result of the incident, in terms of HS outcomes for people effected.

Potential Consequence: The “maximum credible” potential, not absolute worst case HS outcome for the people effected.

INCIDENT OUTCOME CLASSIFICATION

The incident report form shall include information about the actual incident injury outcome in accordance with the definitions below:

Restricted work injury: Where an injury prevents a return to work on normal duties for 1 day/shift or more

Lost time injury: Where an injury prevents a return to work for 1 day/shift or more.

Medical treatment Injury: A work-related injury or illness that requires medical treatment, including a patient being managed or cared for by a doctor or health care professional for the purposes of combating disease or injury. The following are not considered medical treatments:

Visits to the doctor or health care professional solely for observation or counselling.

Diagnostic procedures, including administering prescription medications that are being solely used for diagnostic purposes.

Any procedure that can be labelled/described as first aid.

First Aid Treatment Injury: Where an incident in first aid treatment being provided and results in no time (shift or day) lost and allows person to return to normal duties.

Serious Injury:

A work related injury or illness that requires a person to have:

- Immediate treatment as an in-patient in hospital for more than 24 hours; or
- Immediate treatment for:
  - The amputation of any part of the body
  - A serious head injury, (fractured skull, loss of consciousness, blood clots or damage to face / brain)
  - A serious eye injury (loss, or partial loss of sight, object / substance penetrating eye)
  - A serious burn, requiring intensive or critical care
  - Separation of skin from underlying tissue (de-gloving or scalping)
  - A serious spinal injury
  - Loss of bodily function (loss of consciousness, movement of a limb, sense or function of internal organ)
  - Serious laceration causing permanent impairment
  - Medical treatment for gradual onset of serious occupational related illness or disease.

Near Miss: no injury or illness sustained form the incident.

INVESTIGATION METHODOLOGIES

Incidents with a Level 1 and Level 2 classification shall be investigated using a standard methodology, such as 5 Whys incident investigation process, or WorkSafe Duty Holder Review. *http://www.worksafe.govt.nz/worksafe/toolshed/duty-holder-review/duty-holder-review-information-sheet*

Incidents with a level 3 or 4 classification shall be investigated using a standard methodology such as Incident Causation and Analysis Method (ICAM), "Root Cause Failure Analysis", and may also include WorkSafe Duty Holder Review. Health and Safety consultants or professional bodies such as the New Zealand Institute of Safety Management will be able to provide information about these incident investigation methodologies.

Organisations that utilise proprietary incident reporting and investigation systems, (for example Vault) will be required to follow established workflows and processes within these systems. It is recommended that a stand-alone investigation using the methodologies detailed above is completed for level 3 and 4 incidents, if the proprietary system does not include tools that provide the depth and level of investigation afforded by processes such as ICAM.

Investigations shall be conducted with representatives from affected work areas. The Health and Safety Manager shall ensure that investigation teams are led by suitable trained and experienced people and include people with the relevant knowledge relating to the activity, process, plant or equipment involved in the incident.

CORRECTIVE ACTIONS

The purpose of defining and implementing corrective and preventative actions is to ensure that incidents do not re-occur. Corrective actions shall be developed to manage the level of risk as low as reasonably practicable.

That is controls that reduce risks to levels that are "acceptable and cannot be reduced further without time, money or effort that is disproportionate to the benefit gained or where the solution is impracticable to implement".

IDENTIFICATION OF CORRECTIVE ACTIONS

Corrective actions shall be determined for all identified causal factors. They must address all causal factors identified during the investigation processes.

Corrective actions shall be identified by the investigation team, in conjunction with representative from the workgroups, or workers effected by their implementation.

The hierarchy of controls should be used when considering and identifying corrective actions that may be put in place. More effective controls, such as elimination or engineering controls must be applied where reasonably practicable, rather than immediately using lower level controls, such as PPE.

COMMUNICATION AND CONSULTATION

The Health and Safety Manager shall ensure that proposed and planned corrective actions resulting from incidents are communicated back to workers. This can be done via established methods such as; Committee Meetings, Weekly Toolbox Talks, Alerts, Daily Briefings or team meetings.

Consultation shall be undertaken to ensure that proposed corrective actions do not inadvertently introduce additional hazards into the work place and that worksites have sufficient understanding of requirements and adequate notice to make required changes to the physical layout of sites, work practices or procedures.

RECORD KEEPING

The organisation shall maintain a register or database of incidents. This shall be maintained in a secure and confidential location on the organisations information systems, as it may contain personal information relating to workers.

An Model incident register is provided as Attachment two to this procedure.

TRAINING REQUIREMENTS

Workers shall receive information and training about the organisations health and safety incident reporting processes, tools and systems as part of initial and any refresher induction programs.

People required to lead investigations shall receive recognised training in the specific methodologies utilised by the organisation, e.g. ICAM.

RECORDS OF TRAINING

Persons in control of the workplace shall maintain records of incident reporting and investigation training and make these available during inspections and audits.

ATTACHMENTS

Attachment 1: Model Health and Safety Incident report form

Attachment 2: Model Health and Safety Incident Register

REFERENCES

WATER NEW ZEALAND PROCEDURES & GUIDELINES:

Health and Safety Procedures:

- Contractor Health and Safety Management
- Health and Safety Consultation and Communication
- Health and Safety Training Program

LEGISLATION, REGULATION AND STANDARDS

- Health and Safety at Work Act 2015
- Health and Safety in Employment Regulations 1995
- AS 1885.1 Workplace Injury and Disease Recording Standard.

INCIDENT REPORTING AND INVESTIGATION ATTACHMENT 1

HEALTH, SAFETY INCIDENT REPORT FORM

Incident Outcome and Classification: (circle one from each row, the incident – including Near Miss, must be rated by the 'maximum credible potential', not absolute worst case)

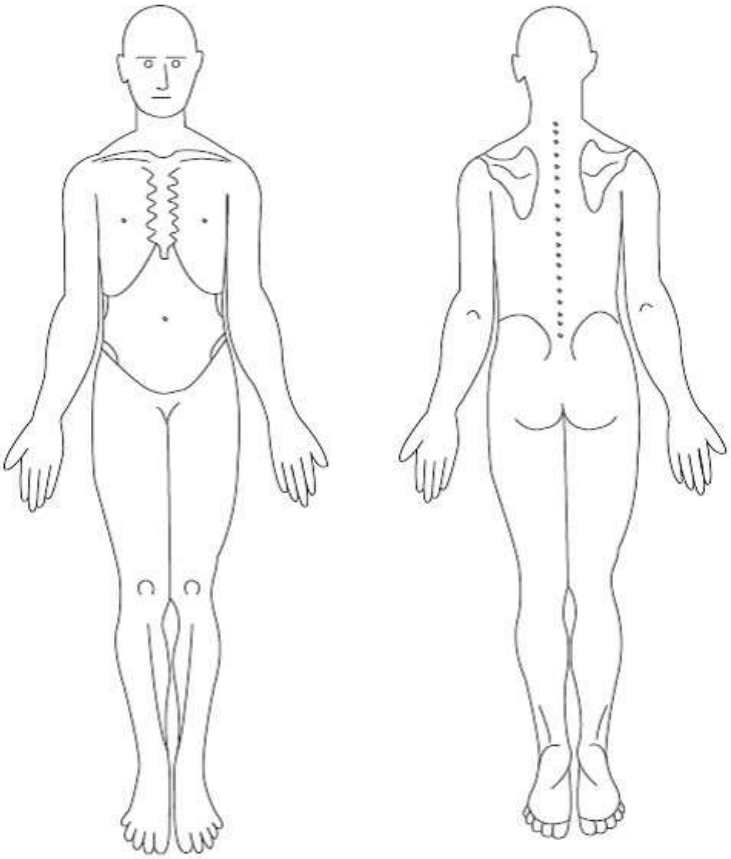
Actual (A)	**1A**	**2A**	**3A**	**4A**
Potential (P)	**1P**	**2P**	**3P**	**4P**
Injury Outcome:	**First Aid**	**MTI**	**LTI**	**Near Miss**

Date			**Time (am/pm)**	
Exact Incident Location				
Process/Task Description				
Incident Description *(Describe what happened – facts only. Attach additional pages if required)*				
Immediate Actions Taken *(Describe what immediate actions were taken – include medical treatment)*				
Plant/Equipment Involved				
Name of person(s) involved in incident/ accident	**Worker Type** (tick)		**Name(s)**	**Job Title/Function**
	☐ Employee	☐ Contractor *Company Name*		
Additional Injured Employee(s)				
Witness Name(s)				

External Medical Treatment Provided	*(tick and provide details as necessary such as GP visit, specialist, x-ray, scan, ECG, physio etc.)* ☐ Yes / ☐ No

Record personal details and mark position on body of any injury and first aid:

Date of Birth	
Contact Phone #	
Length of Employment	
Hours worked prior to incident	
Shift	☐ Day
	☐ Afternoon
	☐ Night
Injury Type *(cut/internal/sprain)*	



Ensure completed forms are handed to HS Team within 24 hrs. Serious injuries to be notified to manager immediately.

COMPLETED BY:

Name		Date	
Signature			
Position		Employer	
External Notification Reqd? ☐ **Yes / ☐ No**	Relevant Authority Notified? ☐ **Yes / ☐ No**	Other? ……..……	

INCIDENT REPORTING AND INVESTIGATION ATTACHMENT 2

HEALTH, SAFETY INCIDENT REGISTER

INCIDENT NUMBER	DATE	NAME	WORK LOCATION	INCIDENT LOCATION	ACTUAL CONSEQUENCE	POTENTIAL CONSEQUENCE	INJURY RATING	MECHANISM	ROOT CAUSE

PERFORMANCE REPORTING PROCEDURE

PURPOSE

This procedure provides guidance and information to enable organisations to develop and provide regular health and safety performance reports. Performance reports are made available to workers and management, as well as external stakeholders where required.

GENERAL REQUIREMENTS

The organisation will develop and provide performance reports to enable effective tracking of performance and input to industry benchmarking.

SELECTION OF PERFORMANCE MEASURES

A standard performance report has been developed by the Zero Harm Business Leaders Forum. This requires that developed by the Zero Harm Business Leaders Forum. Organisations shall capture and report on the lag performance metrics shown in Table 1 below.

Organisations may develop additional performance measures and indicators to suit their own needs or requirements, some examples of additional performance indicators are provided in Table 2. There should be a balance of lead and lag performance indicators to enable effective understanding of organisational performance and trends that may impact health and safety outcomes. Lead indicators should seek to measure both behavioural and management system aspects and elements. Organisations may developed mechanisms to capture and measure data for performance measures as required.

Definitions for incident types are provided in the Health and Safety Incident Reporting procedure.

Table 1 Core Health and Safety Metrics

MEASURE	HOW TO REPORT	REPORTING FREQUENCY
Near Miss	• Year to date, cumulative number of reported near misses. • Near Miss Frequency Rate (NMFR), i.e. the number of reported near misses multiplied by 200,000 divided by total hours worked in the period.	Maintain a 12 monthly rolling NMFR that is reported monthly via performance report. Calculate annual NMFR at end of organisations reporting period for the year.
First Aid Injury (FAI)	• Year to date, cumulative number of reported first aid treatment incidents. • First Aid Injury Frequency Rate (FAIFR), i.e. the number of reported first aid treatment incidents multiplied by 200,000 divided by total hours worked in the period.	Maintain a 12 monthly rolling FAIFR that is reported monthly via performance report. Calculate annual FAIFR at end of organisations reporting period for the year.
Medical Treatment Injury (MTI)	• Year to date, cumulative number of reported first aid treatment incidents. • Medical Treatment Injury Frequency Rate (MTIFR), i.e. the number of reported medical treatment incidents multiplied by 200,000 divided by total hours worked in the period.	Maintain a 12 monthly rolling MTIFR that is reported monthly via performance report. Calculate annual MTIFR at end of organisations reporting period for the year.
Restricted Work Injury (RWI)	• Year to date, cumulative number of reported Restricted Work Injury incidents. • Restricted Work Injury Frequency Rate (RWIFR), i.e. the number of reported medical treatment incidents multiplied by 200,000 divided by total hours worked in the period.	Maintain a 12 monthly rolling RWIFR that is reported monthly via performance report. Calculate annual RWIFR at end of organisations reporting period for the year.
Lost Time Injury (LTI)	• Year to date, cumulative number of reported Lost Time Injury incidents. • Lost Time Injury Frequency Rate (LTIFR), i.e. the number of reported medical treatment incidents multiplied by 200,000 divided by total hours worked in the period.	Maintain a 12 monthly rolling LTIFR that is reported monthly via performance report. Calculate annual LTIFR at end of organisations reporting period for the year.

MEASURE	HOW TO REPORT	REPORTING FREQUENCY
Total Recordable Injury	• Year to date, cumulative number of reported incidents involving any form of injury or treatment. This includes FAI, MTI, RWI and LTI incidents. • Total Recordable Injury Frequency Rate (TRIFR), the number of reported injury and treatment incidents multiplied by 200,000 divided by total hours worked in the period.	Maintain a 12 monthly rolling TRIFR that is reported monthly via performance report. Calculate annual TRIFR at end of organisations reporting period for the year.
Days Lost – Lost Time Injuries	• Year to date, cumulative number of days lost by workers who have sustained lost time injury incidents.	Calculate annual number of total days lost due to lost time injuries at end of organisations reporting period for the year.
Days Lost – Restricted Work Injuries	• Year to date, cumulative number of days lost by workers who have sustained restrictive work injury incidents.	Calculate annual number of total days lost due to restrictive work injuries at end of organisations reporting period for the year.

Table 2 Potential Lead Performance Indicators

POSITIVE PERFORMANCE INDICATOR	DESCRIPTION
Management Health and Safety Inspections and Site Activities.	May include site inspections, audits, participation in toolbox talks, or HS briefings.
Procedures and management system content reviewed in accordance with schedule or other triggers.	Organisation should maintain an audit schedule of procedures and management system (refer to Water New Zealand Health and Safety Audit Procedures) that can be reported against as positive performance indicator. i.e. % of audits completed in line with schedule.
All position descriptions contain specific health and safety requirements and accountabilities.	Review current position/job description documents and ensure they contain information that is reflective of the organisation's management system requirements and any requirements of specific procedures.
Close out of corrective actions arising from incidents and audit recommendations.	The corrective action register should contain details on identified corrective actions from incident investigations, inspections, audits and other sources. A performance indicator can be developed based on a completion of actions in line with required time frames.

A guidance document relating to the development and use of lead performance indicators has been developed by Worksafe New Zealand and can be accessed by the link below:

https://www.worksafe.govt.nz/worksafe/about/what-we-do/the-safety-star-rating-scheme/documents-and-images/example-lead-indicators.pdf

ORGANISATIONAL REPORTING

Periodic performance reports shall be provided by the Health and Safety Manager. It is recommended that these are provided on a monthly basis.

USE AND COMMUNICATION OF REPORTS

INTERNAL REPORTING

Strategic Management Group

The health and safety manager will use the monthly performance reports data to develop an insight report for use by the strategic management group. Details of an insight report and selection of measures that may be incorporated into it are described in the Governance Insight Report attachment to the Health and Safety Strategic Management Group Procedure.

Health and Safety Committees

The Health and Safety Manager will develop the monthly performance report for discussion and review at committee meetings. The report shall include any analysis of data to identify trends in incident factors, positive events or other metrics as required.

Copies of health and safety performance reports shall be displayed and made available via noticeboards and the organisation's intranet.

EXTERNAL REPORTING

The Health and Safety Manager shall develop health and safety statistics and information for inclusion in the organisation's annual report.

In specific situation's the organisation may be required to provide health and safety performance reports to regulatory authorities. In such instances the Health and Safety Manager shall develop and provided reports as requested.

RECORD KEEPING

Records of periodic health and safety performance reports shall be retained by the Health and Safety Manager.

TRAINING REQUIREMENTS

Persons developing performance reports shall be trained in the use of any relevant in-house or proprietary health and safety data bases and sources.

REFERENCES

WATER NEW ZEALAND PROCEDURES & GUIDELINES:

Health and Safety Procedures:

- Incident Reporting and Investigation
- Annual Health and Safety Audit Program
- Health and Safety Management Plans

LEGISLATION, REGULATION AND STANDARDS

- Health and Safety at Work Act 2015
- Health and Safety in Employment Regulations 1995
- AS 1885.1 - 1990 Measurement of Occupational Health and Safety Performance

OTHER GUIDELINES:

Monitoring what matters: Sample Health and Safety Performance Reports *http://www.zeroharm.org.nz/assets/docs/our-work/monitoring/Monitoring-what-matters.pdf*

3.8 EMERGENCY RESPONSE PLANS

All work environments are required to develop and implement plans to manage foreseeable emergencies. This includes emergencies caused by both work activities and natural events.

The procedure and templates in this section of the guidelines will enable the organisation to develop plans that are reflective of their work environments and processes.

Emergency response plans should be included in site induction processes and workers should be provided with appropriate training to undertake any roles, such as emergency warden, or first aider, that are contained within the emergency response plan.

Emergency Response Plans should be tested at regular intervals and a debrief should be held after the test to ensure that improvements may be identified and implemented.

For organisations that have on-site Chlorine storage as part of water treatment processes, Water New Zealand has developed Good Practice Guidelines for developing Chlorine Emergency Response Plans.

The Chlorine guidelines are available from the Water New Zealand website.

SITE EMERGENCY RESPONSE PLANS PROCEDURE

PURPOSE

This procedure provides guidance and information to enable the development of an effective emergency response plan (ERP) for water and waste water treatment plants. The requirements and guidance for ERPs for office locations is provided in the office health and safety procedure.

Requirements for response plans for specific activities such as confined space entry are contained in relevant procedures.

GENERAL REQUIREMENTS

REQUIREMENT TO DEVELOP EMERGENCY RESPONSE PLANS

All sites and workplaces shall develop emergency response plans (ERP). The ERP shall be developed in conjunction with affected workers and shall be subject to worker consultation and input in accordance with the Health and Safety Consultation and Communication procedure.

COMMUNICATION AND TESTING OF EMERGENCY RESPONSE PLANS

The ERP shall be communicated and provided to workers and visitors as part of site induction information. Copies of the ERP shall be displayed at prominent locations, including reception areas, Health and Safety noticeboards and on the organisation's intranet.

The ERP shall be tested at six monthly intervals and the outcomes of the test subject to de-brief discussion by the site or organisations health and safety committee. Where required the ERP shall be updated to include improvements identified during the testing of the ERP.

Changes and revisions to any site ERP shall be formally communicated to all workers, via health and safety meetings, operational meetings or other appropriate communication methods.

EMERGENCY RESPONSE PLAN

ROLES AND RESPONSIBILITIES

The roles and responsibilities of key site staff as they relate to the ERP are as follows.

The Site or Operational Manager shall:

- Ensure that an ERP is developed, communicated and implemented and people have been appointed to conduct specific roles detailed below.
- Provide resources to implement this plan, provide emergency equipment and conduct training.
- Report emergencies & incidents to the organisation and statutory authorities where applicable (e.g. WorkSafe, in consultation with the Health and Safety Manager).

The Site or Operational Manager shall act as Incident Response Manager and will:

Prior to emergency/incident:

- Ensure that all emergency equipment (e.g. fire extinguishers, first aid kits, smoke detectors etc.) is maintained, inspected & calibrated
- Set up Emergency Assembly Areas, and ensure emergency egress routes are kept clear and free of obstructions at all times
- Ensure fire hydrants are clear and accessible at all times
- Ensure fire hazards are removed or appropriately managed
- Ensure all plant is kept in good condition
- Co-ordinate training required by site workers
- Maintain the site attendance register and the Emergency Information Book.

During emergency/incident:

- Activate the audible alarm
- Control workplace resposnes
- Contact Emergency Services, and liaise as necessary with the external emergency response personnel
- Inform all site personnel and ensure they are evacuated and accounted for
- Ensure the Emergency Assembly Areas are safe and direct personnel evacuating the site to an alternative area as necessary
- Coordinate First Aid
- Ensure any critical shutdown procedures are carried out
- Report the emergency to other authorities where applicable (e.g. WorkSafe) if directed by the Health and Safety Manager Operations.

First Aid Officer/First Aiders for the site shall be responsible for:

- Administering first aid to injured workers
- Explaining injured person's status to the emergency services

All site staff, subcontractors and visitors are responsible for:

- Following instructions from the Incident Response Manager
- Implementing procedures safely and adhering to the Emergency/Incident Management Plan, as per instructions and induction.

EMERGENCY DEFINITION

Any incident or situation with the potential to require significant resources beyond normal operations and maintenance, and which impacts significantly on external stakeholders.

The incident may involve emergency services, government authorities and regulators, community representatives and the media.

Emergency conditions are considered to exist if:

- Any site personnel or visitors are involved in an accident or experience any adverse effects or symptoms while on site; or
- A potential danger requiring evacuation exists; or
- A condition is discovered that suggests the existence of a situation more hazardous than anticipated.

EMERGENCY RESPONSE PLAN CONTENT

Attachment 1 to this procedure provides a template and information that can be used to develop the site specific ERP, including:

- Emergency Contact Details
- Emergency Assembly Areas
- Medical Treatment Facilities and Hospital
- General Emergency & Evacuation Information:
  - In the Event of a Medical Emergency
  - In the Event of a Fire or Explosion
  - In the Event of Pollution Occurring
  - In the Event of a Perceived or Actual Threat to Public Health
  - In the Event of Loss or Interruption of Services/ Availability
  - In the Event of Significant Process, Civil, Mechanical, Electrical or Control Failure
  - In the Event of Loss of Power or Communications
  - In the Event of Extortion, including Bomb Threat
  - In the Event of Vandalism
  - In the Event of Earthquake or Extreme Weather

MEDIA RESPONSE

Workers must not respond to media inquiries other than in accordance with any organisational protocol for advising of such inquiries and providing such responses agreed with the organisation.

RECORD KEEPING

Persons in control of the workplace shall maintain records of:

- Emergency response and evacuation drills
- Testing of emergency equipment, such as fire extinguishers

TRAINING REQUIREMENTS

Persons shall be trained in the requirements of this procedure, training courses may including:

NZQA Unit Standard 3271 Use of Fire Extinguishers

NZQA Unit Standard 16799 Carry out the duties of a workplace emergency warden

NZQA Unit Standard 22445 Work as part of an incident management team

RECORDS OF TRAINING

Persons in control of the workplace shall maintain records of emergency response training and make these available as necessary for inspections and audits.

ATTACHMENTS:

Attachment 1: Example Emergency Response Plan Template

REFERENCES

WATER NEW ZEALAND PROCEDURES & GUIDELINES:

Health and Safety Procedures:

- Office Health and Safety
- Incident Reporting and Investigation
- Health and Safety Training Program
- Health and Safety Consultation and Communication

Health and Safety Guidelines:

- Water New Zealand Good Practice Guidelines for developing Chlorine Emergency Response Plans

LEGISLATION, REGULATION AND STANDARDS

- Health and Safety at Work Act 2015
- Health and Safety in Employment Regulations 1995
- AS/NZS 4801:2001, requirement 4.4.7: Emergency preparedness and response
- AS/NZS ISO 14001:2004, requirement 4.4.7: Emergency preparedness and response
- AS 1940 – 2004 The storage and handling of flammable and combustible liquids
- AS 1851 – 2005 Maintenance of fire protection systems and equipment
- AS 3745 – 2002 Emergency control organisation and procedures for buildings, structures and workplaces

EMERGENCY RESPONSE PLANS ATTACHMENT 1

MODEL EMERGENCY RESPONSE PLAN TEMPLATES

SITE EMERGENCY RESPONSE PLAN					
Site Location:		Site Address:		Nearest Intersection:	
Nominated 1st Aiders		Site Manager		Nominated Emergency Wardens	

EMERGENCY SERVICES DETAILS				
Type of Service	Name	Phone Number	Address	Map Ref
Emergency	Police, Fire, Ambulance	111		
Medical Clinic				
Local Hospital				
Back up Hospital				
Local Fire Authority				

EMERGENCY PLAN	TELEPHONING INSTRUCTIONS
In the event of a fire the evacuation route will be the nearest access point depending on the location of the fire:	

GENERAL EMERGENCY & EVACUATION PROCEDURE

IN AN EMERGENCY SITUATION IT IS IMPORTANT TO
REMAIN CALM --- DO NOT PANIC
Respond quickly and decisively
Remember your own safety

FOR ALL EMERGENCIES
Stop work immediately
Warn other people who may be at risk
Notify Incident Response Manager (Applied Site Manager) or Emergency Coordinator (WI Group Site Administrator): • What has happened? • Where has it happened? • How many people involved?

IF IT IS SAFE TO DO SO
Check for injured or trapped people
Reduce or eliminate the hazard
Extinguish ignition sources
Disconnect electrical equipment and isolate all power

IF YOU ARE NOTIFIED TO EVACUATE
Do not run
Move in an orderly way directly to the Emergency Assembly Area
Have your name noted at the Emergency Assembly Area
Remain at the Emergency Assembly Area and await further instructions
Return to normal duties only when directed by the Site Manager

DIAL 111 – REPORT THE EMERGENCY	
My name is…..	DO NOT HANG UP UNTIL TOLD TO DO SO
I have an emergency to report…..	
The emergency is (eg: medical, fire)…..	MAKE SURE YOU HAVE A RESPONSE
The emergency location is at…..	
The danger or injuries are…..	ANSWER ALL QUESTIONS, & REPEAT INFO IF NECESSARY
There are ….. number of people hurt	

KEEP CALM & GET FIRST AID HELP
Keep CALM so you can help
Call for FIRST AID assistance
Try to stop any serious bleeding
Don't move the injured person unless there is danger of further injury
Stay with the injured person until help arrives
Apply artificial respiration if necessary, but only if you are qualified
Direct someone to the site entrance to guide emergency vehicles

EMERGENCY EQUIPMENT	
FIRST AID KITS	
FIRE EXTINGUISHERS	
ABE fire extinguishers are DRY CHEMICAL fire extinguishers, and are suitable for fires where wood, paper, flammable liquids and / or live electrical equipment are involved.	
ENVIRONMENTAL SPILL KIT	
EMERGENCY ALARM	

IN THE EVENT OF A MEDICAL EMERGENCY

CONTINGENCY PLAN – MEDICAL EMERGENCY (GENERAL)

Background Information

Medical emergencies and accidents can occur at any time. Some emergencies may only require first aid care, while others may require immediate medical attention. When in doubt, dial 111

Medical emergencies involving any person must be reported to the Incident Response Manager who will if necessary, advise WorkSafe.

Procedure for Individuals

- Ensure there is no further danger to you or the injured.
- Don't leave the injured person.
- If the emergency is a car accident, ensure the vehicle is stable, turn the engine off and isolate the battery.
- Telephone 111 or the Incident Response Manager and advise the following information: Nature and location of emergency, Access point to the site, Your name and phone number
- Do not hang up until advised to do so by the emergency dispatcher.
- Send for a First Aider.
- Advise the Incident Response Manager (and First Aider if different from Incident Response Manager) that an individual has been injured, and an ambulance has been called (if necessary).
- Stay with the injured person until assistance arrives. Do not attempt to move the injured person unless they are in immediate danger.
- First Aider to take charge of situation and render first aid (as necessary) until emergency help arrives.
- Stay calm and keep the victim calm and warm with a coat or blanket.
- Do not move the victim/injured person unless the person is at risk of further injury.
- Do not give the victim anything to eat or drink.

Procedure for Incident Response Manager

- If it hasn't already been done, telephone 111 or direct someone to do so and advise the following information: Nature and location of emergency your name and phone number and the name(s) of any injured person(s). Do not hang up until advised to do so by the emergency dispatcher.
- Clear access routes for emergency vehicles, and if possible, send someone to the access point to the site (with radio / mobile phone) to guide the emergency vehicles and ensure no unauthorised entry to the site (e.g. the media or general public).
- Render all necessary assistance to ambulance officers.
- Vacate the area when assistance arrives.
- Advise management of the incident.
- Complete an Incident Report
- If necessary, advise WorkSafe (under direction from management).

IN THE EVENT OF A FIRE OR EXPLOSION

CONTINGENCY PLAN – FIRE AND / OR EXPLOSION

Background Information

Construction and process equipment and materials, mains gas and electrical equipment, if present can be subject to the risks of explosion and/or fire.

In any fire, it is important to act quickly and decisively in order to contain the spread of the fire/flames.

Remember, ensure the safety of all personnel on the site as a priority, before attempting to fight the fire.

Procedure for Individuals

- Ensure someone has contacted the Incident Response Manager.
- Activate site emergency alarm
- Attempt to extinguish the fire with a fire extinguisher or fire blanket. Do not place yourself at risk by doing so.
- Evacuate to the Emergency Assembly Area.
- Where possible do not let the fire get between you and your escape route.
- Remain at a safe distance from both the fire and the firefighting operations.
- Render first aid as necessary.

Procedure for Incident Response Manager

- Phone the **Fire Service** on **111** and provide the following information: Nature and location of the fire and/or explosion. Location and access point. Chemicals stored on site. Your name and phone number.

Do not hang up until advised to do so by the emergency dispatcher

- If it is possible that the event may affect the existing Facility or any of its employees, the site controller for the site shall be contacted immediately and notified of the situation.
- Check the attendance register and confirm all personnel on site are accounted for.
- Ensure all injured person(s) receive prompt medical attention. Do not attempt to move the injured person unless they are in DANGER
- Ensure that the Emergency Assembly Area is safe and appropriate, and provide direction to alternatives if necessary.
- Ensure all persons on site evacuate to and remain at the Emergency Assembly Area until the appropriate authorities declare that it is safe to return. Provide assistance/consideration to any persons on site that may require it.
- Depending on the location of the fire, and in consultation with the emergency services in attendance, determine whether or not the fuel stores should be isolated.
- Clear the access routes for emergency vehicles. Appoint a person to wait at the access point to direct the emergency services to the scene of the incident.
- Render all necessary assistance to emergency service personnel.
- Advise management of the incident.
- Complete an Incident Report.

IN THE EVENT OF A ENVIRONMENTAL SPILL OR LEAK

CONTINGENCY PLAN – ENVIRONMENTAL SPILL OR LEAK

Background Information

Environmental spills may include but are not limited to spills of hazardous materials/chemicals including oil/petrol, wastewater and biosolids.

Procedure for Individuals

- Cease work in the area (particularly any hot works/confined space works).
- Stop the source if possible and safe to do so.
- Don't smoke or cause sparks. Extinguish all sources of ignition.
- Make efforts to contain the spilled material if safe to do so (use spill kits).
- Move away from spill.
- Move upwind as necessary.
- Advise plant operators.
- If a witness to the incident, provide information for the incident report.
- Render first aid as necessary, but only after ensuring your own safety.
- Provide further help as necessary.

Procedure for Incident Response Manager

- Stop work in the immediate area.
- Secure sources of ignition.
- Shut down/isolate the source of spill or leak
- Shut down non-essential sections of plant (depending on severity of spill).
- Contain the spillage (i.e. prevent from spilling/flowing any further). Possibly use absorbent booms/material to form a continuous bund surrounding the spill.
- If spill is considered too large to control, phone emergency services and inform them of: the nature of the spillage; the spillage/ leaking material; your name and phone number. Do not hang up until advised to do so by the emergency dispatcher.
- Notify the Site manager.
- Remain at the scene until made safe.
- Clear access routes for emergency vehicles.
- Prevent contaminant from entering stormwater system and/or watercourses.
- Clean up contaminant – this should be a priority once the substance has been contained and the area has been made safe for a clean-up.
- Place any contaminated soil in a 44-gallon drum or similar for later treatment.
- After incident, return the spill kit to its original location and replenish used stock.

IN THE EVENT OF A PERCEIVED OR ACTUAL THREAT TO PUBLIC HEALTH

CONTINGENCY PLAN – THREAT TO PUBLIC HEALTH

Procedure for Individuals

- Immediately contact the Incident Response Manager if an incident occurs where there is reason to believe that a threat to public health could develop. Report any suspicious circumstances.
- Give details of the incident and follow any instructions given to you.
- If there are any immediate safety risks associated with the situation, vacate the area.
- If possible, secure the area and prevent any public access.
- Do not switch off any devices and/or valves unless given prior permission to do so by Site Management.
- If in doubt about any procedures to follow, always ask the Site Manager or their representative.

Procedure for Incident Response Manager

- Immediately inform the organisation of any incidents which may adversely affect the health of the public.
- If any injuries have occurred ensure those persons receive prompt medical attention. Follow the procedure for Medical Injuries.
- Contact the emergency services as necessary.
- Identify the areas of business which may be affected and agree the course of corrective/controlling actions to be carried out.
- Provide assistance and support to staff where necessary in order to rectify the situation.
- Adhere to organisations back-up or business continuity procedures and assist in implementing these where possible.
- Do not communicate with public/media including the issuing of publicity, media releases and responses to media inquiries without the prior consent of the organisation.

IN THE EVENT OF SIGNIFICANT PROCESS OR CONTROL FAILURE

CONTINGENCY PLAN – LOSS OF PROCESS CONTROL

Background Information

Failure of any process controls associated with the existing plant could have a significant effect on a facility. This could lead to a serious environmental incident and could also pose health & safety risks to the public at large. A organisation should have procedures in place to deal with such an event however prompt response to such events is vital. Failure of controls within a proposed facility that only occur at commissioning phase of the construction works should not be as serious.

Procedure for Individuals

- Immediately cease work in the affected area.
- Inform the Incident Response Manager immediately. Give details of the incident, if known.
- If any isolation switches/valves are immediately evident, attempt to switch off if safe to do so. Only attempt this if you are certain it will not adversely affect any operations and are confident that what you are attempting is correct. If in doubt do not attempt to alter any valves and/or switches.
- Await instruction from the Incident Response Manager.

Procedure for Incident Response Manager

- Immediately report the failure to senior management and operations. It may affect the site and back-up systems may need to be implemented.
- If any injuries have occurred, provide first aid and contact the emergency services.
- Follow any procedures that may be in place with regard to the existing facility.

IN THE EVENT OF A BOMB THREAT (OR OTHER THREAT)

CONTINGENCY PLAN – BOMB THREAT (OR OTHER THREAT)

Background Information

- It is possible a bomb or other threat could be made. All such threats are to be taken seriously.

Procedure for Individuals

- If a bomb or other threat is received by phone, follow the procedure below:

Attempt to maintain the conversation, remain calm; attract someone else's attention – get them to notify the Incident Response Manager, or if possible, transfer the call to the Incident Response Manager.

  - Note details of the caller (e.g. voice characteristics), including background noise, and where possible record details of the call including time and duration.
  - If possible, ask for details of the bomb/threat, such as its location and when it might be detonated.

- If a suspect package is received by mail or other delivery, do not attempt to handle it and under no circumstances open it.
- Advise the Incident Response Manager.
- In the event the Incident Response Manager is not available, notify Emergency Services on 111, providing the following information:
  - Nature of the threat
  - Your name and phone number
  - Do not hang up until advised to do so by the emergency dispatcher
- Evacuate to the Emergency Assembly Area, ensuring that any person requiring assistance/consideration receives is given it. Where possible avoid any known areas of risk (e.g. suspected bomb locations).
- Remain at a safe distance from the location until the appropriate authorities advise that it is safe to return.
- If a bomb or suspect device is located or identified, under no circumstances is it to be touched, handled or approached.
- Under no circumstances assume that the location or the explosion/activation of a bomb or suspected device is the only threat – there may be other bombs/devices; a second device has often been used to attack those rendering assistance to the victims of a first bomb.

Procedure for Incident Response Manager

- Evacuate all staff & visitors to the Emergency Assembly Area, including ensuring that any person requiring assistance/ consideration receives it. Where possible avoid any known areas of risk (e.g. suspected bomb locations).
- Clear access routes for emergency vehicles.
- Check the attendance register and confirm all persons on siteare accounted for.
- Remain at a safe distance from the location until the appropriate authorities advise that it is safe to return.
- If possible, isolate the area, and ensure that the attending authorities are aware of the bomb or suspect device.
- Render all necessary assistance to emergency service officers.

IN THE EVENT OF VANDALISM

CONTINGENCY PLAN – VANDALISM

Background Information

In the unlikely event that acts of vandalism are carried out the following procedures should be carried out.

Procedure for Individuals

- Report any acts of vandalism or any suspicious activities.
- Be diligent in site security and report any instances of unauthorised personnel entering the site.
- If an act of vandalism is noticed, report it to the Site Management team immediately.
- If the act of vandalism results in damage to equipment which may lead to an incident such as those tabulated above (i.e. spillage/ fire/flood/contamination) attempt to immediately stop the hazard from being realised if it is safe to do so.

Procedure for Incident Response Manager

- If there are any dangers presented by the act of vandalism, secure the area and restrict personnel movements into the area until made safe.
- Relay details of the act of vandalism to Incident Reponse Manager.
- Incident Reponse Manager to contact law enforcement agencies and give all relevant details.
- Assess the damage caused by the act of vandalism and advise of any delays this may cause to the site.
- Contact the relevant insurers where applicable.
- Complete Incident Report.

IN THE EVENT OF EXTREME WEATHER

CONTINGENCY PLAN – SEVERE WEATHER AND EARTHQUAKE

Background Information

The Facility may be subject to severe weather events and/or earthquakes which can produce some or all of the following effects:

- Lightning damage to buildings or electrical equipment.
- Hail damage to vehicles or buildings.
- Loss of electrical power.
- Fire due to lightning strikes.
- Death or injury caused by windblown debris, falling trees, hail or lightning strike.
- Problems due to stormwater.

Procedure for Individuals

- Stay inside during lightning or hail storms.
- Do not use the telephone during lightning storms.
- Wear appropriate protective clothing.

CONTINGENCY PLAN – SEVERE WEATHER AND EARTHQUAKE

Procedure for Incident Response Manager

- If extreme weather is anticipated weather systems and forecast should be closely monitored.
- If an event seems imminent, site materials should be secured to prevent any chance of materials being blown away by wind or washed away.
- If an event occurs, cease work and ensure all employees, visitors and contractors are accounted for.
- Check for injuries and render first aid as necessary.
- Inspect all structures and equipment and ensure no damage has been sustained.
- In the event damage has been sustained, take appropriate remedial action.
- Should the storm event or earthquake cause a consequential emergency such as indicated above, the appropriate emergency plan is to be followed.

SECTION 4

OPERATIONAL PROCEDURES AND GUIDELINES

4 OPERATIONAL PROCEDURES AND GUIDELINES

4.1 WATER INDUSTRY HIGH RISK ACTIVITIES

This section of the guidelines contains information and tools to enable organisations to control activities that have been identified as being of high risk to the Water Industry. This is either due to the frequency of the activity, the consequence it may cause, or a combination of these factors.

The material in this section of the guideline should be used to assist organisations in developing standard operating procedures, risk control cards, or other systems of work that may be in place to provide guidance for effective management of risks at an operational level.

The procedures contain information and guidance to enable the organisation to meet any specific approved code of practice or regulation requirements. The procedures should be read in conjunction with relevant guidance material developed by WorkSafe New Zealand.

Organisations may have other high risk activities, due to their operating nature or environment. These will be identified and captured during the organisational risk assessment process described in the Risk Assessment and Control model procedure.

CONFINED SPACE ENTRY PROCEDURE

PURPOSE

To ensure that workers required to enter and / or work in a Confined Space can undertake activities without endangering the health and safety of themselves or others.

The requirements of this procedure apply to operational and construction related work activities.

Where a contractor has been appointed as Principal to control works on site this procedure shall be adopted as a minimum standard (best practice guidance material) if the Principal Contractor does not have an equivalent procedure.

GENERAL REQUIREMENTS

COMMUNICATION

Adequate means of communication between people inside the Confined Space and a Confined Space Standby are neeeded.

The Standby must ensure that communication with personnel inside the Confined Space is maintained at all times to allow a summons for assistance, including:

- Maintaining visual or verbal contact;
- The use of life line signals;
- An air horn maybe required where high noise levels or the nature of the Confined Space inhibits the ability of entrants to hear the site emergency alarms.

PERSONAL PROTECTIVE EQUIPMENT

In addition to the company minimum requirements for PPE, personnel working in a Confined Space shall wear an approved safety harness where identified by the risk assessment for entry into the space or when identified on the permit as a requirement for entry. A lifeline shall be attached to the harness where this has been identified by the risk assessment or entry permit.

If the internal atmosphere has the potential to become oxygen deficient or contains toxic gases, proper respiratory protection must be worn. Protective clothing is to be worn where irritating substances may be encountered.

PREPARATION FOR ENTRY

SAFE ACCESS

Entry and exit to the Confined Space shall be by a designated access opening. Where there is more than one access way / entry to the Confined Space such as manholes flanges, they shall be secured with suitable barricades and “Danger Do Not Enter” signage.

Access ways must permit rescue of all personnel who enter the Confined Space and together with the surrounding area must be kept clear of any obstructions.

It may be necessary to provide stairs or ladders to the access levels to gain safe convenient access for work and provide scaffold platforms externally and internally for rescue purposes.

ISOLATIONS

In order to prevent the possible inflow of hazardous substances or the release of stored energy into the Confined Space, isolations must be applied to all direct connections to the Confined Space.

All electrical power that may affect safe entry must be isolated.

SIGNAGE

The Permit Authoriser shall ensure that an appropriate danger sign is located near all entrances into a Confined Space prior to, and throughout Confined Space operations. Signs shall comply with the requirements of AS1319.

VENTILATION AND PURGING

The Confined Space Entry Authoriser shall define the ventilation requirements for the confined space. Ventilation shall be forced, extraction or natural, depending on the atmospheric hazards presented by the space and the work to be performed inside the space.

Confined Spaces that have contained toxic substances or inert gasses shall be mechanically ventilated and gas tested prior to entry.

Where necessary, the Confined Space shall be cleared of contaminants by use of a suitable purging agent. The purging agent or any gas used for ventilation purposes shall never be pure oxygen or gas mixtures with an oxygen content greater than 21%.

ATMOSPHERIC TESTING AND MONITORING

The Confined Space Entry Permit Authoriser shall define on the Confined Space Entry Permit, any atmospheric testing requirements. As a minimum, an atmospheric test prior to entry at the commencement of each shift shall be undertaken and recorded on the Confined Space Entry Permit.

The Permit Authoriser shall identify the necessity of continuous atmospheric monitoring or the frequency of ongoing atmospheric tests if the nature of the Confined Space or the work being performed indicates this is warranted. Atmospheric tests results shall be recorded on the Confined Space Entry Permit.

As an absolute minimum, oxygen content and Lower Explosive Level (LEL) shall be tested at each atmospheric assessment. Other contaminants potentially present shall be tested prior to entry and when any repeat atmospheric tests are required.

Prior to entry, the atmosphere of a Confined Space must meet the following minimum requirements.

- the concentration is 0% of the Lower Explosive Level (LEL);
- the Oxygen (O2) concentration is between 19.5% and 23.5%;
- the concentration of any other atmospheric contaminant is less than the Exposure Standard expressed as a Time Weighted Average (TWA).

ISSUE OF A CONFINED SPACE ENTRY PERMIT

Upon request for a confined space entry permit, the Permit Authoriser shall:

- Discuss the job with the requestor of the permit to ensure the entry is necessary.
- Determine if the confined space can be safely handed over to workers.
- Ensure the work will not conflict with, or be impacted by, other activities.

Once determined that the work may proceed, the Permit Authoriser shall ensure activities are undertaken so that the Confined Space can be entered with all hazards controlled to an acceptable level.

The Permit Authoriser shall ensure that all requirements of entry into the space have been undertaken and all controls have been detailed clearly and concisely on the Confined Space Entry Permit.

Once the Permit Authoriser is satisfied that the space can be safely handed over to the workers, the confined space entry permit shall be authorised. The Permit Authoriser shall issue the permit for a timeframe, either a set duration or the duration of the job. Any changes to the work or conditions shall require that the permit be reissued or amended as required by the Permit Authoriser.

CONDUCTING WORK

The permit shall be available at the job site along with the JSA / JSEA for the job.

Work shall not commence until all conditions on the permit are met.

Work performed shall comply with the conditions of the permit at all times.

The person entering shall notify the standby of an intention to enter. The person entering shall sign in and out of the confined space by completion of the log in and out section on the entry permit.

Additional monitoring, apart from continuous monitoring, shall be detailed on the back of the permit. Additional monitoring, with the exception of continuous monitoring shall be performed by a competent gas tester.

COMPLETION OF WORK

Upon completion of the work the Permit Holder shall ensure:

- All personnel have exited from the confined space.
- All tools and equipment have been removed from the space and stored in a safe location.
- The entry point to the confined space is appropriately barricaded and confined space signage is clearly visible.
- The work site is left in a clean and tidy state.

Where work has been completed or the duration of authorisation has lapsed then the permit shall be signed off. The confined space entry permit is cancelled upon completion of the sign off.

RECORD KEEPING

Confined Space Entry Permit and documentation relating to the Confined Space shall be retained by and be readily available upon request.

TRAINING REQUIREMENTS

All persons who are to undertake work associated with Confined Spaces are required to complete training prior to any involvement in this work. It remains the responsibility of the Permit Holder to verify the competency of all persons who enter, supervise or control entry to Confined Spaces.

Personnel performing Confined Space Entry work must have completed the appropriate NZQA training and have achieved competency in the following units within the last 12 months:

- 18426: Knowledge of Hazards Associated with Confined Space

Personnel supervising Confined Space Entry work and issuing a Confined Space Entry Permit must have completed the appropriate nationally accredited training and have achieved competency in the following units:

- 17590: Issue Work Permits
- 17579: Plan a confined space entry
- 25510: Operate atmospheric testing

RECORDS OF TRAINING

Persons in control of the workplace shall maintain records of confined space training and make available during inspections and audits.

RESCUE PLANNING

Prior to entry into any Confined Space, a Rescue Plan shall be in place, known by all personnel associated with the Confined Space and rescue equipment must be in place and available at all times during entry. The details of the Rescue Plan shall be determined by risk assessment based on the nature and complexity of the Confined Space.

SAFETY HARNESSES LINES AND LIFTING EQUIPMENT

Suitable safety harnesses and safety lines or rescue lines, complying with AS/NZS 1891.1, should be worn where—

- there is a risk of falling during ascent or descent; or
- rescue by a direct route, either vertical or horizontal, is possible.

The Emergency Plan shall specify the use of a safety harness, safety line or rescue line and care should be exercised to ensure that such equipment would not introduce a hazard or unnecessarily hinder free movement within a Confined Space. The selection of the type of safety harness or safety line or rescue line should be in accordance with AS/NZS 1891.4 and should take account of the possible hazards / evacuation arrangements. The equipment should be stored, maintained and inspected in accordance with AS/NZS 1891.4. Persons wearing safety harnesses shall have received training and attained competence in NZQA 23229.

REFERENCES

WATER NEW ZEALAND PROCEDURES & GUIDELINES:

Health and Safety Procedures:

- Contractor Health and Safety management
- Job Safety Analysis
- Health and Safety Training Program

LEGISLATION, REGULATION AND STANDARDS

- Health and Safety at Work Act 2015
- Worksafe New Zealand Guidance: Safe working in a confined space
- Australian Standard; AS 2865:2009 –Confined Spaces
- AS/NZS 1891.4 Industrial fall-arrest systems and devices – Selection, use and maintenance
- AS/NZS 1891.1 Industrial fall-arrest systems and devices - Harnesses and ancillary equipment
- NOHSC: 1003(1995) Adopted National Exposure Standard for Atmospheric Containments in the Occupational Environment

LONE AND ISOLATED WORKERS

PURPOSE

To provide guidance and information relating to the management of safety and health risks associated with work arrangements and people where:

- people are required to work without contact with others for periods exceeding 2 hours
- the work area is isolated from assistance by significant distance or time

GENERAL REQUIREMENTS

Hazards and risks associated with lone or isolated work shall be identified and assessed and a safe system of work shall be developed.

HAZARD IDENTIFICATION AND RISK ASSESSMENT

All scenarios should be assessed prior to commencing working alone to ensure lone working is appropriate and that required controls are in place. Working alone is not recommended when undertaking high risk activities for example:

- Working at Heights
- Working in Confined Spaces
- Working near or above water
- Working with plant

The risk assessment shall be undertaken in conjunction with effected worker(s), or their designated representative. The outcome shall be developed and documented into a JSEA template. This should be approved prior to work commencing.

If, as a result of the assessment it has been determined that a job cannot be safely performed by one person, it shall either not be performed or more than one person shall be assigned to the work.

The assessment shall be conducted by the operational manager, health and safety manager or equivalent, and shall include evaluation of whether:

- The workplace poses special risks to a lone worker
- There is safe access and suitable equipment for a lone worker and one person can safely handle necessary access equipment
- All plant, substances and goods can be safely handled by one person

LONE WORKER REGISTER

A 'Working Alone Register' will be maintained and made available via the organisations intranet, or document sharing platform. The register allows employees (or a Responsible Person) who are working alone to enter and update details of their location and expected time for checking in. Checking in may be by mobile phone, or RT/CB radio if used. A maximum length of time between check-in is two hours. A template for a working alone register is provide as attachment 1 to this procedure.

There are proprietary systems available that can be used to provide alerts and alarms. These systems are based on data from motion sensors or crash detectors that provide an alarm back to nominated control point.

APPLICATION OF THE WORKING ALONE REGISTER DURING NORMAL BUSINESS HOURS

During normal business hours it is expected that the organisation will be responsible for maintaining the register and supplying the Responsible Person(s) as the contact for employees working alone.

Employees working alone during normal business hours shall:

1. Contact and confirm availability of a Responsible Person.
2. Be registered on the Working Alone Register prior to leaving office/work site/home (registration to be completed by either the employee or Responsible Person).
3. Contact the Responsible Person prior to the elapse of the registered time period (maximum of 2 hours) and update them of any changes as necessary.
4. Responsible Person to update Working Alone Register.
5. Updates to continue as required until the employee returns to office/project or site/home.
6. Upon return to office/project or site/home employee must be removed from the Working Alone Register (registration to be removed by either the employee or Responsible Person).
7. In the event of the employee not returning or Responsible Person not been able to contact them, actions shall be implemented to search for and/or regain contact with the employee.

Working alone outside of normal business hours

Where workers are required to work alone outside of normal business hours the requirements of this procedure shall be implemented. Specific applications of this procedure will vary depending on organisations methods for scheduling and communicating work outside of normal business hours. For example through feild services or duty office or similar.

During business hours, if the Responsible Person is unable to contact the employee working alone, the Responsible Person shall contact the Supervisor/Manager of the employee working alone who shall initiate an appropriate response to ensure the employee is located.

APPLICATION - CONTRACTORS

Where Contractors are working alone as defined in this procedure it shall be the responsibility of the Contractor to ensure a working alone procedure and register is established which allows adequate management of personnel working alone. This procedure shall be reviewed and accepted by the organisation prior to implementation.

Where a Contractor does not have an acceptable working alone system in place they may adopt the organisation's procedure.

RECORD KEEPING

The working alone register shall be maintained and made available on the organisations document management system / intranet as applicable.

TRAINING REQUIREMENTS

Operational managers and team leaders and others who may be required to manage the requirements of this procedure shall receive internal training in its requirements.

ATTACHMENTS

Attachment 1: Lone Worker Register Template

REFERENCES

WATER NEW ZEALAND PROCEDURES & GUIDELINES:

Health and Safety Procedures:

- Contractor Health and Safety Management
- Job Safety Analysis
- Health and Safety Training Program
- Working in and Around Water
- Working at Heights

LEGISLATION, REGULATION AND STANDARDS

- Health and Safety at Work Act 2015
- Health and Safety in Employment Regulations 1995
- AS 4801 Occupational Health and Safety Management Systems

WORKING ALONE ATTACHMENT 1

WORKING ALONE REGISTER

This register is to be used by workers in situations where they are required to work alone, or in isolated environments.

DATE	NAME	MOBILE PHONE NUMBER	WORK LOCATION: SITE & ACTVITY	NATURE OF WORK BEING UNDERTAKEN	RESONSIBLE PERSON	TIME IN	ESTIMATED RETURN TIME	TIME OUT	RESONSIBLE PERSON NOTIFIED?	WORKING ALONE ENTRY CLOSED BY:
7/10/2016	Joe Bloggs	0277 007007	Pump Station X, Inspection	Health & Safety Site Inspection	Fred Bloggs	7.30	9.30	10.00	Yes	Joe Bloggs

WORKING IN AND AROUND WATER

PURPOSE

This procedure describes the methods for all work in areas where there is water below, nearby or workers are required to work in water.

The intent of this procedure is to provide guidelines to minimise the likelihood of injury, to protect personnel working over water, and to prevent water ways from becoming polluted through construction or other work activities performed over water.

GENERAL REQUIREMENTS

The need to undertake any work over, in, or near water adds a further risk to those that already exist for the specific task. The failure to adequately assess risk and provide systems of control that effectively manage those risks may result in personnel injury through drowning, hypothermia, contact with watercraft etc. and/ or equipment and material loss or damage.

The hierarchy of controls should always be applied and implemented prior to commencing any work over or near water including the assessment as to whether the risk can be eliminated.

Appropriate precautions should be taken to prevent people and materials from falling into the water / effluent. This commonly consists of edge protection which meets the following requirements:

- Guard rails with a minimum height of 950mm
- Intermediate guard rails or other rigid barriers such that there is no unprotected gap and toe boards with a minimum height of 150mm to prevent persons from slipping under the intermediate rail and materials from falling.

If fencing or guarding is not reasonable practicable, PPE must be properly planned and workers trained and supervised.

RISK ASSESSMENT AND PLANNING

All persons involved in any work activity over or near water shall carry out a task specific JSA prior to undertaking work.

Personnel required to work over, in, or above water must do so only when they are in the company of at least one other person.

Where work is to be conducted in and around inlet vales or pumps, grills should be fixed at points where there is a risk of workers being sucked or swept into pipes/conduits.

PERSONAL PROTECTIVE EQUIPMENT

All personnel must wear an approved floatation jacket at all times when performing any work in, over, on, or above the water under any of the following conditions:

- Standing, or wading in any water body, including lagoons or inlet channels
- Outside of the confines of hand railed platforms
- Within 3.0 metres of an unprotected edge
- Not restrained through the use of a fall restraint system

The use of a fall restraint system where practical may also be required. Consideration must be given to the nature of the work, the materials and equipment located below and adjacent to the activity and the potential and severity for injury with and without the system.

Consideration must be given to the type of protective footwear provided and used so as to provide maximum protection from slipping on wet/slippery surfaces.

The placement of signs around the workplace is necessary to reinforce the requirement for the use of floatation jackets. Sufficient floatation jackets shall be available for all personnel who are exposed to free fall into the water. Information about types of flotation devices and jackets may be obtained from Maritime New Zealand:

http://www.maritimenz.govt.nz/recreational/safety/lifejackets/lifejacket-types.asp

All PPE including life jackets, harnesses and equipment must be checked every time they are used i.e. they should be checked to see that the pill is in place and the gas cylinder has not been breached.

PPE should also be regularly checked. Checks should include the general condition and automatic inflation devices. A record of these checks should be maintained. Life jackets should be maintained in accordance with the manufacturer's instructions. Life rings and throwing lines should be checked for deterioration.

WORKING IN WATER

When working in water (standing, non-diving activities) the JSA process shall include assessment of hazards associated with:

- Slips and falls into the water
- Inundation by upstream waters, Where water is flowing sufficiently fast to carry a person away, only physical protection should be used, such as a bar or chain across.
- Where work is on or over water manually operated hand tools shall be suitably restrained using a tool leash that is attached to the person's wrist.

When working in, or near aeration tanks, or aerated water, the aeration process reduces water density and therefore extra buoyancy lifejackets (275 Newtons) are required to be worn.

UNDER-WATER WORK

Diving work is highly specialised and workers conducting work involving diving must hold a current New Zealand Occupational Diving Certificate of Competency.

The responsible person shall ensure that and WorkSafe have been informed where workers breathes compressed air, or a respiratory medium other than air (diving).

All diving operations must be carried out in accordance with 2004 Guidelines for Occupational Diving,

http://www.worksafe.govt.nz/worksafe/information-guidance/pdf-documents-library/diving-2004/diving-1008.pdf

SYSTEMS/EQUIPMENT & RESCUE PROCEDURE

Radio/phone contact must be maintained between all work crews and project supervision whilst work is taking place in, over or adjacent to the water.

An air horn (or equivalent) shall be maintained at all locations where work is being undertaken to provide a secondary means of alerting others in the event of an emergency where radio/phone communication fails.

Life rings with sufficient rope attached shall be maintained at all work locations where work is being carried out over or in the water.

In the event of a person or persons accidentally entering the water, all available rescue equipment (work boat/skip, life rings, etc) will respond immediately and attend the location to render assistance and provide rapid transport for the affected person(s) to land.

Consideration may also be given to the use of scramble nets (secured top and bottom) for some workplace areas.

Contact Emergency Services as required by calling “111”.

MATERIALS & EQUIPMENT

All equipment and materials used on or above the water must be firmly secured at all times. Any hazardous substances or chemicals must be stored in an approved container with appropriate bunding to contain any spill. Where environmental contaminants are required to be used on or over the water the volume of product should be kept to a minimum and contained in suitable leak proof receptacle at all times. A spill kit capable of containing the volume of contaminant and Safety Data Sheets (MSDS) must be available at the work location at all times.

Equipment and material will be minimised wherever possible and returned to land when no longer required.

TRAINING REQUIREMENTS

All people required to supervise and/or work over on near water shall be trained in the applicable parts of this procedure. All workers required to use PPE including life jackets and or safety harness must shall be instructed in their correct use, pre use checks (pill in place, gas cylinder not ruptured) and storage.

Appropriate personnel shall be trained in the emergency rescue of persons in water and the emergency procedure containing spills.

Persons in control of the workplace shall maintain records of training and make available during inspections and audits.

Divers should be trained in accordance with the requirements outlined in the Under-Water work section of this procedure.

REFERENCES

WATER NEW ZEALAND PROCEDURES & GUIDELINES:

Health and Safety Procedures

- Contractor Health and Safety Management
- Hazard Identification and Risk Assessment
- Working at Heights
- Job Safety Analysis
- Health and Safety Training Programme
- Workplace Chemical Management

LEGISLATION, REGULATION AND STANDARDS

- Health and Safety at Work Act 2015
- Health and Safety in Employment Regulations 1995
- ANSI/UL 1123 and 1177 type II PFD near shore buoyant vest
- AS 4758 level 100
- AS 1512 PFD type I
- AS/NZS 2299.1:2007 Occupational diving operations - Standard operational practice

EXCAVATION HEALTH AND SAFETY

PURPOSE

To enable organisations to plan and undertake excavation and trenching operations in a safe and consistent manner.

GENERAL REQUIREMENTS

This procedure is applicable to all excavation/trenching works conducted on the organisation's sites in management and control of the workplace.

Where a contractor has been appointed as Principal to control works on site this procedure shall be adopted as a minimum standard (best practice guidance material) if the Principal Contractor does not have an equivalent procedure.

Personnel supervising excavations must have as a minimum, training in Excavation and / or completed the appropriate NZQA unit standard training in the installation of Trench Support.

PREPARATION AND PLANNING

When planning and preparing for excavation works, site investigations must be conducted to establish the following:

- Location, positive identification and condition of existing services
- Nature of the ground
- Stability of adjacent structures i.e. power poles, old excavation works, trees etc
- Possibility of flooding
- Working close to unstable ground
- Environmental considerations
- Trench access and egress
- Pedestrian and Traffic movement

JOB SAFETY ANALYSIS

A Job Safety Analysis (JSEA) shall be developed for all trenching and excavation works. Key hazards specific to trenching and excavation works that should be addressed through the JSEA process include but are not limited to:

- Earth and rock dislodging and falling
- Instability of the excavation or any adjoining structure
- The inrush or seepage of water
- Unplanned contact with utility services (electrical, gas, water etc)
- Placement of spoil and materials
- Falls into excavation (such as unprotected edges, during access and egress into excavation)

NOTIFICATION TO WORKSAFE

The Site Supervisor must ensure that WorkSafe New Zealand is notified of any trench or excavation Work in any pit, shaft, trench, or other excavation in which any person is required to work in a space more than 1.5 metres deep and having a depth greater than the horizontal width at the top.

Notification is given completing an on line form, available from the WorkSafe New Zealand Website:

https://www.worksafe.govt.nz/worksafe/notifications-forms/particular-hazardous-work/particular-hazardous-work-notification.pdf

SERVICE LOCATION AND PROTECTION

SERVICE LOCATION

When doing any work that involves ground penetration, including digging, placing fence posts, or driving in stakes, make sure that area is clear of any utility services.

Relevant energy suppliers will be able to tell you where electrical cables or gas lines run. In some areas there may be more than one set of gas mains.

These may be supplied on a service map for the area by utility owners.

The organisation's excavation permit issuing processes will include processes for ensuring marked up plans are provided to the site supervisor prior to work commencing. An Excavation or "Permit to Dig" must be fully completed and issued prior to any excavation work commencing Completed permits shall be retained and filed on site.

It is critical to determine the exact location and positive identification of existing services (gas, electricity, water, sewerage, telecommunications etc).

A pre-excavation survey using pipe and cable locating equipment shall be undertaken prior to any trenching or excavation works.

Pot holing using non-destructive means shall be undertaken prior to any trenching or excavation works that are within 5 metres of services. Non-destructive excavation may be undertaken via a vacuum boring system / hydrovac or a manual system:

- The vacuum boring system uses water to expose the services which are buried under ground. This system has a high pressure water jet and vacuum system, the water jet is directed at the ground in the location where the service is believed to be and the vacuum sucks up and removes the water and loose matter that has to be dislodged by the water jet.
- The manual system uses manual labour to expose the services which are buried under ground. Wooden handled or other insulated implements (i.e. shovels, mattocks etc) should be used when undertaking this system which involves digging down on both sides of the service and then remove the earth in the middle by pulling the clay away (not digging it away).

EXCAVATION PERMIT

An excavation permit must be fully completed and issued prior to any excavation work commencing on the project. Prior to issue of the Permit the Competent Person shall ensure:

- All underground installations, such as sewer, water, fuel, electrical lines, gas lines, telecommunication lines that will be encountered are recorded on the relevant drawing or sketch.
- Where isolations are required liaise with appropriate isolation owners (Electrical or Mechanical) to develop an Isolation List specific to the Excavation Permit.
- When the excavation work approaches the approximate crossing or parallel location of an underground installation and if accidental contact or disturbance is possible ensure:
  - the appropriate means (hand or sonic) for identifying the exact location before proceeding.
  - the requirement for the services to be physically identified (marking paint or similar) at the location of the service.
  - the requirement for a services spotter.
- That provisions have been made for:
  - excavation stability (shoring/benching/battering) based upon the ground conditions to be encountered.
  - precautions necessary to ensure safe access and egress and third party protection including the removal of poles, and other surface encumbrances that may create a hazard to employees involved in excavation work.
  - Emergency Evacuation/Rescue
  - Traffic Management
  - Approved Safe Access/Egress

The Competent Person, once satisfied that all the requirements have been met shall authorise the Excavation Permit.

The Competent Person shall define the period of validity for the proposed excavation as part of the authorisation to commence work.

The Supervisor in charge of the excavation shall acknowledge the Excavation Permit requirements through signing the Permit Holder section and informing all personnel undertaking the work of the requirements.

An Excavation Permit is valid for either the duration of the job or the time period as indicated on the permit.

The Permit Holder shall hand back the Excavation Permit by signing the relinquishment section of the original and duplicate copies of the Excavation Permit and any associated Permits, conditional upon:

- Where excavation conditions have changed the Permit Holder is to inform the Competent Person the nature of the changed conditions and additional precautions required.
- Where a significant change in the precautions associated with the excavation is required then a new Excavation Permit, and JSEA be completed.

EXCAVATION REQUIREMENTS

GENERAL REQUIREMENTS

All trenches and excavations that are to be entered by a person and where a hazard exists, such as the potential for collapse, or those excavations greater than 1.5m deep must be benched, battered or shored.

A copy of the JSEA, Excavation Permit and associated service / utility documentation and drawings must be held at all times on site by the work crew performing the work.

To ensure standardisation, underground assets shall be marked (colour coded) as per AS 1395:1995 Identification of the Contents or Pipes, Conduits and Ducts.

The below table highlights common services and associated colours.

SERVICE TYPE	COLOUR
Water (Fire Services)	Blue
Water (Potable)	Green with a blue band
Electricity	Orange
Gas	Yellow
Sewerage	Black
Storm water	Green
Telecommunications	White

In this guideline, 'competent person' refers to the temporary works designer, who should be competent to assess and manage the risks relevant to the excavation's depth and have a working knowledge of this guideline. A competent person is a person who has acquired through training, qualification or experience the knowledge and skills to carry out a task. Recommended competencies for the competent person are outlined in the "Good Practice Guidelines for Excavation Safety, WorkSafe July 2016".

BENCHING, BATTERING AND SHORING

All battered or benched excavations must be excavated a maximum one metre from the base of the excavation. Approximate battering values of this angle for different materials are:

- Clay (dry) 1:1
- Clay (wet) 4:1
- Sand (Clean) 1.5:1
- Rock (Decomposed) 1:1

Benched excavations must be a maximum one metre up and minimum one metre out dependant on the outcome of the risk assessment.

All shoring must adhere to Australian / NZ Standards. All shoring must be lifted into place using approved lifting points, slings and plant with sufficient lifting capacity. The use of soldier sets is a last resort control strategy.

All toms / wailings must be in place no greater than one metre from the base of the trench. Vertical sheeting must reach the base of the excavation.

All shoring must extend to a minimum of 300mm above ground level.

Workers must not:-

- Enter the excavation prior to the installation of shoring;
- Work inside a trench, outside the protection of shoring;
- Remain inside the trench whilst the shoring is being moved;
- Enter a trench after shoring has been removed;
- Step across an excavation enter a shield other than by a ladder.

Spoil must never be less than 1m from the trench edge. If a trench runs across sloping ground, spoil should be placed on the downhill side of the excavation.

Mechanical excavation tools and techniques shall not be used within 1 metre of identified underground utility assets.

FALL PREVENTION

All trenches and excavations are to have fall prevention measures in place. Fall prevention measures include ladders, shields, handrail systems, mesh covers and barricading and signage.

Access ladders should be provided in all trenches where personnel are working.

Ladders must be of industrial Standard (120 Kg SWL) and in good condition. Ladders must be securely positioned at the bottom and secured at the top. Ladders must extend at least 900mm above the level needed to stand or step off.

If the trench is deeper than 1.5m the ladder must be positioned within the shield.

If shields are to be used as a falls prevention barricade, shields must be a minimum of 900mm above ground level.

Where shields are not or cannot be used as a falls prevention barricade, handrails must be erected. Handrails must have a top rail between 900mm and 1100mm high and a mid-rail approximately 500 mm high.

TEMPORARY BARRICADING AND SIGNAGE

Excavations are to be barricaded using an approved system of barricading and sign posted to prevent access to the excavation (bunting or mesh fencing and star pickets erected 2m back from edge with the following signage "Danger: Authorised Personnel Only" or "Danger: Deep Excavation");

The section between the end of pipe and excavator where pipes are being laid need not be barricaded as long as constant supervision is available to ensure only competent pipe laying persons approach the trench.

Where possible, all excavations are to be backfilled on the same day they are opened. If an excavation is to be left overnight, flashing lights or retro-reflective markers or a combination of both are to be installed to alert personnel of its presence.

HAZARDS FROM FALLING OBJECTS

All surface items located adjacent to the excavation that may readily fall shall be removed to a safe location a minimum of 2 metres from the trench or securely supported as necessary.

At no time shall employees be permitted to work on the faces of sloped or benched excavations above other employees.

WATER ACCUMULATION

Employees shall not work in hazardous excavations in which there is accumulated water or water is accumulating unless there are adequate support systems in place to prevent excavation / trench collapse and there is an adequate de-watering system in place that can control the amount of accumulating water. The works supervisors must monitor these systems to ensure proper operation.

When excavations change or prevent the natural drainage or flow of surface water or groundwater, suitable means must be provided to prevent the water from entering the excavation or accumulating in, or, adjacent to the excavation. Water removed from excavations or diverted from entering excavations shall be stored, re-used or released in accordance with the site environmental management plan.

EXCAVATION INSPECTIONS

The Supervisor in charge of the excavation works must conduct a daily inspection of the excavation to ensure that:

- the trench sides are not being undercut by the excavator bucket;
- the supports are not being overstressed;
- the ground is not fretting or beginning to collapse into the trench;
- tension cracks do not appear along the trench top
- the trench walls do not sag under the increased pressure of the excavator.

Inspections are to be recorded on the Trenching and Excavation Checklist.

If the works supervisor finds evidence of hazardous conditions, all employees at risk of injury must be immediately removed from the excavation until all necessary precautions have been taken and the works supervisor inspects the area and authorizes the work to continue.

Pipes, which are to be laid, and equipment for laying pipes (shovels, haunching materials, etc) should be placed away from the top of the trench to ensure that they do not fall in.

ATTACHMENT

Attachment 1: Trenching and Excavation Checklist

REFERENCES

WATER NEW ZEALAND PROCEDURES & GUIDELINES:

Health and Safety Procedures:

- Contractor Health and Safety Management
- Job Safety Analysis
- Work at Heights

Legislation, Regulation and Standards

- Health and Safety at Work Act 2015
- AS 4744.1 – 2000 Steel shoring & trench lining equipment
- AS 4804 - 1997 Occupational health and safety systems - General guidelines on principles, systems and supporting techniques
- Good Practice Guidelines for Excavation Safety, WorkSafe July 2016

http://www.worksafe.govt.nz/worksafe/information-guidance/all-guidance-items/excavation-safety-gpg

TRENCHING AND EXCAVATION INSPECTION CHECKLIST

CRITERIA	Y/N OR N/A	COMMENTS	CORRECTIVE ACTIONS
Is the trench/excavation battered/benched and/or shored correctly?			
Is the spoil stored >1.0m from edge?			
Are there safe access and egress points from the trench/ excavation?			
Are people safeguarded from falling into trench/excavation e.g. Barricading			
>2m from edge of excavation?			
Is signage in place?			
Is the Excavation Permit current?			
Ground support complies with Code of Practices Requirements			
Is the trench backfilled or barricaded off at the end of the work day?			
Can motor vehicle inadvertently run into excavation/trench?			
Are spoils kept off the roadway?			
Base of Shields not more than 1m from base of trench and extend above vertical wall.			

WORKING AT HEIGHT HEALTH AND SAFETY PROCEDURE

PURPOSE

To provide guidance to control the health and safety risks associated with falls when working at height. Where a contractor has been appointed as Principal to control works on site this procedure shall be adopted as guidance material good practice minimum standard.

GENERAL REQUIREMENTS

ASSESSMENT OF FALL RISKS

Before work commences an assessment shall be undertaken to identify whether there is a risk of falling.

If a task involving a fall hazard has been identified, the risk of a fall can be assessed by determining:

- The likelihood of a fall occurring;
- The potential distance a person could fall; and
- The extent of harm that a person could receive in the event of a fall.

IDENTIFYING FALL HAZARDS

The tasks detailed below provide examples of work activities and situations that would typically expose a worker to the risk of falls.

- Tasks conducted near an unprotected perimeter edge (lack of physical barriers such as guardrails);
- Tasks conducted near a hole, shaft or pit into which personnel could fall (pile holes, service pits, trenches etc.);
- Tasks conducted on unstable surfaces (areas where there is potential for ground collapse such as poorly compacted or backfilled ground or surfaces like on top of stacks of building material/pallets which are unstable);
- Tasks conducted on fragile surfaces (this includes surfaces such as rusty metal roofs, cement sheeting roofs, fibreglass sheeting roofs, skylights etc.);
- Tasks conducted on a sloping or slippery surface where it is difficult for personnel to maintain their balance (e.g. sloping embankments, glazed tiles etc.);
- The way in which personnel are accessing/aggressing work area; and
- Tasks conducted on any structure or plant being constructed or installed, demolished or dismantled, inspected, tested, maintained, repaired or cleaned.

HIERARCHY OF FALL CONTROLS

There is a specific, preferred order (or hierarchy) of risk-control measures to control identified fall hazards, ranging from the most effective to the least effective that must be applied. The preferential order of controls is:

Level 1 Controls: Undertake the work on the ground or from a solid construction

Eliminating the need to work at height is the most effective way of protecting the safety of workers. Consideration of the potential risks of falls from height early in the design stage can result in the elimination or better control of such risks for workers. Where this is not possible, one way to minimise fall risks at the design stage is to integrate fall prevention systems into the design. This can improve safety in both the construction phase and in subsequent maintenance tasks.

Examples of elimination include:

- prefabricating roofs at ground level
- prefabricating wall frames horizontally, then standing them up
- using remote release clutches for crane-lifted loads positioned at height
- designing permanent guardrails or other forms of edge protection (e.g. parapet walls) for permanent fall prevention on roofs

Level 2 Controls: Undertake the work using a passive fall prevention device

Examples of passive fall prevention devices include:

- roof safety mesh
- fall protection covers
- guard railing
- perimeter screens / mesh
- temporary work platforms, i.e. scaffolds, elevating work platforms, mast climbing work platforms and work boxes.

Level 3 Controls: Undertake the work using a work positioning system

Examples of Work Positioning Systems:

- travel restraint systems
- industrial rope access systems

Level 4 Controls: Undertake the work using a fall injury minimisation system

A fall injury minimisation system means equipment, material or a combination of equipment and material that is designed to prevent, or reduce the severity of injury to a person if a fall from one level to another does occur.

Examples of fall arrest systems include:

- catch platforms
- fall-arrest systems

Level 5 Controls: Undertake the work from ladders

Generally ladders should only be used for gaining access to and egress from a work area. Whilst ascending or descending a ladder it is important that three points of contact are maintained at all times.

Ladders may only be used when working at a height where other methods are not practicable (as per hierarchy of controls). If ladders are to be used the following measures must be adhered to:

- Ladders used must be industrial grade not domestic;
- Do not stand on a rung closer than 900mm from the top of a ladder (this includes when working and stepping off/on);
- Set ladders up on stable footings and fix at top and bottom;
- Do not use ladders where it is possible to contact power lines;
- Metal ladders should not be used when working with live electrical installations;
- Do not set ladders up near an open edge;
- Always maintain 3 points of contact with ladder (do not use hand tools/equipment that are designed to be used with 2 hands);
- Do not carry out tasks on ladders where vision is impaired such as arc welding, oxy cutting etc.;
- Do not over reach whilst on a ladder;
- Do not work over other people;
- Only 1 person is permitted to work off a ladder at the same time.

PREVENTION OF FALLS INTO EXCAVATIONS OR PITS

The responsible person shall ensure that all holes or penetrations are covered to prevent persons falling through these openings. Fall protection covers must be designed so as to be capable of supporting the impact of a person falling onto it (minimum of 15 KN) and must be secured so as they do not move.

Fall protection cover over mesh cast in floor

Fall protection covers could be made of solid sheeting (timber or plywood) or mesh. They must be securely fastened over the hole and may be marked with the following Danger Sign if applicable.

SCAFFOLDING

Scaffolds shall be designed in accordance with AS / NZS 1576.1:1995 (Scaffolding Part 1 General Requirements) and erected, altered and dismantled in accordance with AS/NZS 4576:1995 Guidelines for Scaffolding.

All personnel involved in scaffolding work should hold the appropriate certificate of competency in accordance with the National Occupational Health and Safety Certification Standard for Users and Operators of Industrial Equipment (SB Basic Scaffolding, SI Intermediate Scaffolding and SA Advanced Scaffolding).

A Scafftag (as shown below) or similar system shall be used to indicate that a scaffold is completed, ready for use and displayed at the access point. Work on scaffolding must only be undertaken on completed scaffolding, unless the work involves the erection or dismantling of the scaffolding.

Scaffolding that is being erected or dismantled shall display an appropriate sign and install a hard barrier, placed at potential entry points, to prevent unauthorised access to the work area. A recommended design and size for the scaffolding signage is displayed below.

600 x 450mm

The scaffolding supervisor shall ensure that a handover certificate is issued for scaffolding over 4 metres to verify that the scaffolding is ready for use and compliant with AS4576-1995 Guidelines for Scaffolding. A copy of the handover certificate will be retained by the project, kept on file and later archived for a period of five years. It is recommended that a register of scaffolds at the workplace also be retained.

When erecting scaffolds, environmental loads particularly the effects of wind and rain should be considered. Environmental loads imposed by wind and rain may be heightened if perimeter containment screens, shade cloth or signs are attached to the scaffold. Any additional loads applied to a scaffold should be checked by a suitably qualified engineer.

A regular means of scaffolding inspection (by a qualified person) should be conducted in accordance with the risk assessment and no less than every 30 calendar days. Scaffold auditing should also be conducted and where inspection and auditing identifies deficiencies, the scaffold should not be used until corrected.

ELEVATED WORK PLATFORMS

In addition to the general work at height and plant safety requirements and working near overhead services the following methods shall be used whilst undertaking work from an Elevated Work Platforms (EWP) on structures:

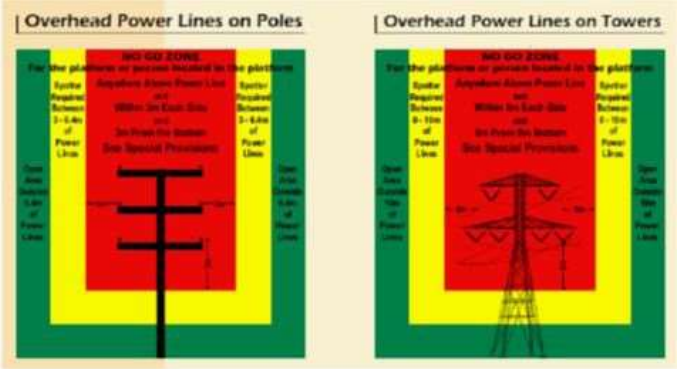
- Fall arrest systems or restraint devices, complying with the appropriate part of AS/NZS 1891 and selected in accordance with AS/NZS 1891.4, shall be worn and attached to the anchorage point(s) by everyone in a boom type mobile EWP unless it can be demonstrated that the risk of them being ejected from the platform through a component failure or other eventuality,
- All EWPs shall be fitted with a manual lowering device,
- In the event of either mechanical breakdown or emergency, workers shall use the manual lowering device or request another EWP. Personnel shall not use the rope descent device unless appropriate rescue training has been undertaken and there are no other means of retrieval,
- EWP movement controls should be protected against accidental operation and the dead man control should be tested to ensure that it is operational,
- Personnel shall not enter or leave the platform when elevated except in an emergency.

REQUIREMENTS FOR OPERATING EWP'S NEAR OVERHEAD POWERLINES

Operators must ensure the following is undertaken prior to commencing work,

- Notify the power company when planning the work,
- Obtain appropriate permits from the power company,
- Do not commence work until a JSA has been completed

Operators should be aware of "No Go Zones" when operating near overhead powerlines (see image below).



USE OF SCISSOR LIFTS

- That the recommendations in the manufacturer's operation manual are followed;
- Where the task intended for the scissor lift is outside or is not covered by the recommendations in the operation manual, then the machine's suitability for the task should be confirmed by the supplier, manufacturer or a competent person, before the task commences; and
- Where the system of work involves the scissor lift working in proximity to other mobile plant or vehicles, then control measures should be in place to ensure the risks associated with entanglement, collision or collapse are eliminated, before the task commences.

Prior to any task being undertaken the responsible person shall ensure that a JSA has been prepared in consultation with all those who are involved. The JSA should include the identification of all likely hazards (including overturning).

FALL RESTRAINT SYSTEMS

A fall restraint system prevents the user from approaching an unprotected edge on a building or structure. Generally, the system consists of a safety belt or harness that is connected by a lanyard to a suitable anchorage point or static line. The system must be set up to prevent the wearer from reaching the edge.

Where a temporary roof anchor is used as an anchorage for a travel restraint system it must be installed in accordance with the manufacturer's or designer's instructions. The roof or other building component to which an anchor is to be attached must be checked by a competent person to verify that it is suitable for supporting the anchor.

It is preferable that travel restraint systems are used in conjunction with other fall prevention methods, such as guardrails, safety nets and catch platforms. Travel restraint systems should conform to the AS/NZS 1891 series or their most recent equivalent.

FALL ARREST EQUIPMENT

Personal fall arrest equipment shall consist of a full body harness connected to a suitable fixed anchor or static line by a lanyard or inertia reel. All fall arrest equipment shall comply with the relevant sections of AS/NZS 1891. In using fall arrest equipment:

- Employees using personal fall arrest equipment must be trained and deemed competent;
- Equipment inspections are to be conducted (by the employee prior to use) regularly (every 6 months as a minimum unless otherwise specified) by a competent person; and
- Six monthly inspections will be documented and recorded on a register.

Personnel must attach one end of the lanyard (energy absorber) or the line of the inertia reel to the top 'D' ring at the back of the harness and the other end to a secure anchorage point on the building or structure.

The anchor point chosen MUST NOT be below the level of the work to be carried out in order to limit possible free fall to 1.8 metres wearing a full harness.

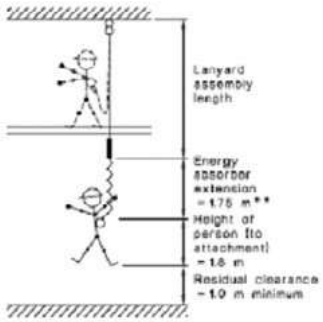
Always consider the potential of the 'pendulum effect' when using a fall arrestor system in a non-vertical position. If a person using an individual fall-arrest system falls, the system may act as a pendulum, and in some situations the user may swing onto the ground (which is called ‘swing down’) or swing back onto the building or structure (which is called ‘swing back’).

Suggested methods to prevent this include; careful selection of the anchor point and use of two (2) arrestors from different angles. AS/NZS 1891.4:2000 Industrial fall-arrest systems and devices – Part 4: Selection, use and maintenance provides further guidance on inertia reels.

Fall-arrest systems, incorporating a lanyard, should be installed so that the maximum distance a person would free fall before the fall-arrest system takes effect is 2 metres. There should be sufficient distance between the work surface and any surface below to enable the system, including the action of any shock absorber to fully deploy (See image below). Personal energy absorbers complying with AS/NZS 1891 or most recent equivalent should be used in conjunction with the lanyard.

Harnesses must be properly adjusted as per the manufacturer's instructions. When a fall occurs, the majority of the holding force is on the leg straps, designed to minimise the risk of injury. The waist band and shoulder straps take little load. If the leg straps are loose there is a real risk of injury in the groin area when the leg straps snap upwards in stopping a fall.

Lanyards should not be used in conjunction with inertia reels as this can result in an excessive amount of free fall prior to the fall being arrested.



Fall protection equipment should be stored in a clean, cool, dry location away from direct sunlight, chemical or corrosive fumes. Care should be taken not to store the equipment on the ground.

Safety Equipment should be cleaned regularly. The frequency of cleaning depends on the environmental conditions within which they are used. It is recommended that the cleaning intervals should not exceed 3 months for webbing products. The cleaning process should remove contaminates, including: dirt, dust, paint, grease, oil and chemicals.

Lanyards should preferably be from the same manufacturer as the harness to ensure compatibility between components. Mismatches can result in the "roll out" of the hook from the "D" ring.

Lanyard hooks should not be connected directly to the static line. A karabiner should be used. The lanyard, when passed around an anchor point, must not be hooked back on itself. Where a lanyard assembly is in use the energy absorber shall be attached to the harness.

The harness and the lanyard must be rated to support the weight of a person during a fall. Harnesses must support a minimum body weight of approximately 120kg. The harness and lanyard manufacturing weight specifications must be checked against the individual using those items prior to donning them and working at height. This is to ensure that the harness and lanyard specifications are appropriate for the person’s body weight. AS/NZS 1891.4:2000 Industrial fall-arrest systems and devices – Part 4: Selection, use and maintenance provides further guidance on lanyards.

ANCHORAGE POINTS

Where a temporary anchor point is used as an anchorage for a travel restraint system, it must be installed in accordance with the manufacturer’s or designer’s instructions. All anchorages need to be visibly checked prior to use. The building or structure and anchorage points shall be assessed by an engineer, unless it is clear to a competent person that the anchorage system is structurally adequate. This includes verifying that a client’s system has been appropriately installed or has the necessary approvals in place prior to starting work.

An example of where an engineer may not be required is where an anchorage sling of the correct capacity is secured around a solid permanent structure such as a plant room. However, if any doubt exists as to the structural adequacy of the anchorage, an engineer shall make the assessment. If called upon to make the assessment the engineer shall certify in writing that all combinations of loads in a worst case situation can be safely contained by the proposed structure and anchorage points.

The responsible person must ensure that a permanently fixed anchorage is inspected by a competent person, and that it is regularly inspected at no less than six-month intervals if it is permanently fixed and in regular use. If a permanently fixed anchorage is not in regular use, it needs be inspected before it is used.

Where the load-bearing capacity of anchor points is impaired, the anchor point is required to be taken out of service to prevent its use. When the competent person doing an inspection assesses the anchorage is impaired, they must ensure that:

- the anchorage is not used and is tagged to indicate it is not to be used;
- the repaired anchorage is not used until it is inspected by a competent person who can confirm it is safe to use.

All permanently fixed anchor points certificates are to be kept on record and retained for a period of five years.

INERTIA REELS

An inertia reel can be attached to a suitable anchor or to a static line using a karabiner or a shackle. An inertia reel should only be used in a vertical position with a maximum of 30 degree variation from the vertical. When using an inertia reel a safe working zone shall be calculated to eliminate a potential fall. Where necessary, the inertia reels shall have a light cord attached to enable the wire to be drawn down and shall be installed by a competent person that is familiar with the item being used.

FALL ARREST AND INERTIA REEL RESCUE PLANS

Where work at height is to be conducted in using fall arrest or inertia reels as control measures, a rescue plan must be completed and communicated to workers. Where an emergency rescue is to be performed, only personnel trained in such procedures are to conduct the rescue. Work at height rescues can only be authorised if emergency response and rescue services are on site and available.

In the event of an emergency at heights, the responsible person (e.g. Chief Warden) shall take the following steps:

- Identify location of person requiring rescue and potential access / egress points;
- Contact Emergency Rescue Services by dialling 111
- Ascertain if any person/s injured – if yes, request Ambulance;
- Assess the ability to rescue the person;
- Initiate rescue if possible and if trained;
- Facilitate emergency service areas;
- Liaise with emergency services and deploy resources as applicable to support emergency personnel.

It is imperative that the rescue of a worker who is suspended in a full body harness should occur promptly. Suspension trauma is a condition whereby a person suspended in a harness in a substantially upright position may experience blood pooling in the legs. Depending on the susceptibility of the individual, this may lead to loss of consciousness, renal failure and eventually death. In an emergency a Suspension Trauma Safety Strap allows the workers to stand up in their harness to relieve the pressure being applied to the arteries and veins around the top of the legs.

TOOLS AND EQUIPMENT WHEN WORKING AT HEIGHT

Consideration should be given as to what tools and equipment personnel may be required to carry to and from the work place. Wherever possible, mechanical-lifting aids should be used so as to eliminate the possibility of a fall whilst carrying tools and equipment.

Where the potential exists for tools or equipment to fall from the work area, the following protection methods should be considered:

- The use of tool straps attached to the wrist of the worker when using hand tools;
- Areas below the activity shall be barricaded to prevent access;
- Perimeter screens / mesh are used to prevent tools and equipment falling and hitting those below. This may include spotters or sentries to keep people away from hazards being conducted above;
- Kickboards can also be used on scaffold working platforms to prevent items being inadvertently kicked or dropped off a scaffold;
- Drop mats to protected equipment from falling below;
- Tools or equipment buckets or containers;
- Flooring which does not permit tools or equipment to fall through openings etc.

INSPECTION AND MAINTENANCE OF FALL PREVENTION EQUIPMENT

The responsible person shall ensure that all Fall Restraint / Arrest Equipment, e.g. Fall Arrest Harnesses, Inertia Reels, Lanyards and Rescue Equipment, are recorded a Working at Height Equipment Register or similar.

All equipment should be thoroughly inspected prior to each use for serviceability and must not be contaminated with paint, chemicals or marker pens. Fall Restraint / Arrest Equipment should be stored where they will not be damaged, preferably hung above floor level.

As per AS/NZS 1891.4, fall protection equipment users must carry out a full inspection on their gear before and after each use to ensure that the items are in good working order.

The responsible person shall ensure that fall restraint / arrest devices are inspected in accordance with the relevant Australian Standards (AS 1891 Series) and by competent personnel. Inspection and maintenance results shall be recorded on the Working at Height Equipment Register.

Inspected items should be tagged (coloured preferably) so that the user can identify that it is in service and ready to be used. Inspection tags should not be attached to 'D' rings as personnel could accidentally attach a lanyard or inertial reel to the inspection tag.

Guidance on the inspection of belts and harness fall arrest systems and devices is given in Appendix C of AS 1891.4:2000 and guidance on the inspection of fall-arrest devices is given in Appendix D of 1891.4:2000.

If a fall arrest system has been used to arrest a fall or is not working within the manufacturer's specifications it must be withdrawn from service, tagged out and inspected by a competent person. Equipment deterioration and failure may result in serious injury or death. Any equipment not fit for use must be removed from service immediately, tagged out and reported to the workplace supervisor/manager.

Where it is unsure whether the equipment should be condemned advice from the manufacturer or a manufacturer's accredited supplier should be sought. This equipment shall have an Out-of-Service Tag placed on it and locked in a container clearly marked "Equipment- Out-of-Service".

EXCLUSION ZONES AND SIGNAGE

Signage that indicates "Workers Overhead" shall be displayed at prominent locations below the work area. The drop-zone shall be delineated by the supervisor / leading hand using either solid barricading (e.g., those that cannot be walked through or under such as fencing, water barriers etc) or hard barricading (e.g., those erected via scaffolding tubes/stands)

Personnel are not permitted to enter the drop-zone until work has ceased and all tools and materials have been secured and approval has been given by those supervising the work.

TRAINING REQUIREMENTS

All personnel working in an area where there is a potential to fall from height must receive appropriate accreditation/certification training that is specific to the task they are performing. This includes but should not be limited to:

- Scaffolding;
- Rigging / Dogging;
- Operating Elevated Work Platforms / Boom-lifts;
- Using Fall Restraint / Arrest Equipment;
- Fall rescue.

Note: Training for personnel required to use fall restraint/arrest equipment must cover how to inspect, fit, maintain and use each specific item.

Records of training

Persons in control of the workplace shall maintain records of working at heights training and make available during inspections and audits.

REFERENCES

WATER NEW ZEALAND PROCEDURES & GUIDELINES:

Health and Safety Procedures:

- Contractor Health and Safety Management
- Hazard Identification, Risk Assesment and Control
- Job Safety Analysis
- Confined Space Entry
- Health and Safety Training Program

LEGISLATION, REGULATION AND STANDARDS

- Health and Safety at Work Act 2015
- Health and Safety in Employment Regulations 1995
- AS / NZS 1576.1:1995 (Scaffolding Part 1 General Requirements)
- AS/NZS 4576:1995 Guidelines for Scaffolding.
- AS 1657 SAA Code for Fixed Platforms, Walkways Stairways and Ladders
- AS 1891 2000 Industrial Fall Arrest
- AS 1892 Portable Ladders
- AS 2550.1 Cranes, Safe Use - General Requirements
- AS 2550.10 Cranes, Safe Use - Elevating Work Platforms
- AS/NZS 1891.1 Individual fall-arrest systems & devices - Safety belts and harnesses
- AS 2626 Industrial Safety Belts and Harnesses - Selection, Use and Maintenance
- AS 4626 Industrial Fall Arrest Devices - Selection, Use and Maintenance
- AS/NZS 1891.4 Individual fall-arrest systems & devices - Selection, Use & Maintenance

4.2 PLANT AND EQUIPMENT

Plant and equipment, both mobile and fixed require specific activities to be undertaken to ensure both compliance and effective management of health and safety risks.

This section of the guidelines contains procedures and information that will enable the organisation to identify and control the hazards associated with the use of plant and machinery. The water industry uses a large amount of fixed plant, both in wastewater and drinking water treatment and distribution processes. It is critical that plant is maintained appropriately and that operators are sufficiently trained and competent.

Mobile plant may be brought onto site as part of capital, or improvement works, that involve construction or civil engineering. The organisation shall ensure that any mobile plant used by workers is maintained, that there are effective mechanism in place to ensure competency and that required inspection and reporting processes are in place.

MACHINERY SAFETY PROCEDURE

PURPOSE

Provide guidance and requirements for control of health and safety risks associated with the use of fixed plant and workshop machinery. Requirements for mobile plant is detailed in a seperate procedure.

Where a contractor has been appointed as Principal to control works on site this procedure shall be adopted as a minimum standard (best practice guidance material) if the Principal Contractor does not have an equivalent procedure.

GENERAL REQUIREMENTS

RISK ASSESSMENT

Each item of plant/machinery shall have a risk assessment completed, documented and any required actions completed before that plant/machinery is put into service. The risk assessment shall take into account:

- Mechanical Hazards –entrapment, impact
- Non Mechanical Hazards – electricity, heat, noise
- Organisational Hazards – fatigue/shift work,
- Work Environment Hazards – ergonomics, work at heights, lighting levels

The risk assessment shall consider all aspects of the plant/ machinery function, including installation/assembly, operation, cleaning, maintenance and repair.

CONTROL MEASURES

All risks/hazards identified during the risk assessment shall be controlled so far as reasonably practicable. These controls shall follow the Hierarchy of Control:

- Eliminations
- Minimisation
  - Substitution
  - Isolation
  - Engineering Controls
  - Administration Controls
  - Personal Protective Equipment

Guarding of plant/machinery shall be in compliance with Australian Standard, AS 4024 Safeguarding of Machinery.

TRAINING AND COMPETENCY

Before a worker operates, cleans, maintains or repairs an item of plant/machinery the worker shall be assessed as competent to perform the tasks required of them. This competency assessment shall be based on both training and experience, including:

- Qualifications – Formal education, trade certificates, NZQA Unit Standards
- Experience in operating similar plant/machinery
- Practical assessment by their supervisor
- General observation by their supervisor

Continual monitoring and observation shall occur following the initial competency assessment to demonstrate continual competency.

If a worker is not assessed as fully competent due to a lack of experience, additional supervision or training shall be provided to that worker until such time that that worker is deemed experienced and competent.

STANDARD OPERATING PROCEDURES

A Standard Operating Procedure (SOP) shall be developed for each item piece of plant/machinery. A copy of the SOP shall be made available to all workers required to operate, clean, maintain or repair the item of plant/machinery for which the SOP has been developed. Each SOP shall provide specific information for the plant/machinery, including the following information in this section.

SCOPE OF OPERATION

Details of the design operating conditions, including design parameters such as:

- Operating capacity limits – dimensions, flow, pressure
- Operating temperature limits
- Statutory inspection/certification
- Suitable consumables

The SOP shall include details of standard start-up and shut-down procedures, including any pre/post operational checks required.

The SOP shall include details of periodic inspections/checks required for the safe operation of the plant/machinery.

SPECIFIC HAZARDS AND CONTROLS

The SOP shall include a summary of the hazards and controls identified during the risk assessment for the operation, cleaning, maintenance, repair and (if the plant/machinery is relocatable) installation/assembly.

The SOP shall detail the points of isolation required to remove all energy sources to the plant/machinery, specific to the cleaning, maintenance or repair task required to be completed.

TRAINING AND COMPETENCY

The SOP shall detail the training and competency required to operate, clean, maintain or repair the piece of plant/machinery

REPAIR

The SOP shall detail any specific restrictions on the repair of the plant/machinery.

REFERENCES

WATER NEW ZEALAND PROCEDURES & GUIDELINES:

Health and Safety Procedures:

- Job Safety Analysis
- Health and Safety Training Program
- Contractor Health and Safety Management

LEGISLATION, REGULATION AND STANDARDS

- Health and Safety at Work Act 2015
- Health and Safety at Work (General Risk and Workplace Management) Regulations 2016
- Health and Safety in Employment (Regulations) 1995
- Electricity (Safety) Regulations 2010
- WorkSafe New Zealand Safe Use of Machinery Best Practice Guidelines

HEALTH AND SAFETY WHEN DRIVING PROCEDURE

PURPOSE

To provide guidance on how to identify and control health and safety hazards associated with driving vehicles for work related activities.

GENERAL REQUIREMENTS

LICENCING AND TRAINING

The organisation must ensure that workers who operate vehicles have the appropriate licence class for that vehicle. Periodic reviews or audits shall be conducted to ensure that workers continue to hold valid licences.

The table below shows the 6 classes of vehicle licence in New Zealand:

Class 1	Car licence
Class 2	Medium rigid vehicle licence
Class 3	Medium combination vehicle licence
Class 4	Heavy rigid vehicle licence
Class 5	Heavy combination vehicle licence
Class 6	Motorcycle licence

The table below (NZTA Licence Classes Information)) details what specific vehicle types and weights may be driven by holders of the various licence classes and any applicable speed limitations.

LICENSE CLASS	TYPE OF VEHICLE	WEIGHT RESTRICTIONS	SPEED RESTRICTIONS
1L or 1R	Vehicle	GLW or GCW 4500kg or less	-
	Moped or all-terrain vehicle		-
	Motorhome or tradesperson's vehicle	GLW 6000kg or less, but with an on-road weight 4500kg or less	-
1R	Agricultural tractor	GLW less than 18,000kg	40km/h or less
	Agricultural tractor towing an agricultural trailer	GCW 25,000kg or less	40km/h or less
1	Any vehicle*	GLW or GCW 6000kg or less	-
	Moped or all-terrain vehicle		-
	Motorhome or tradesperson's vehicle	GLW 6000kg or less	-
	Combination vehicle which is not a tractor/trailer or agricultural tractor/trailer	GCW 6000kg or less	-
	Tractor	GLW 6001kg to 18,000kg	30km/h or less
	Agricultural tractor	GLW 6001kg to 18,000kg	40km/h or less
	Agricultural tractor towing an agricultural trailer	GCW 25,000kg or less	40km/h or less
	Tractor towing a trailer, that is being used in non-agricultural land management operations	GCW 25,000kg or less	30km/h or less

LICENSE CLASS	TYPE OF VEHICLE	WEIGHT RESTRICTIONS	SPEED RESTRICTIONS
2	Rigid vehicle	GLW 6001kg to 18,000kg	-
	Combination vehicle (that is not a tractor/trailer combination)	GCW 12,000kg or less	-
	rigid vehicle (that is not a tractor) towing a light trailer	CLW of rigid vehicle 18,000kg or less	-
	Rigid vehicle with two axles or less	GLW over 18,000kg	-
	Tractor	GLW 6001kg to 18,000kg	30km/h or less
	Any vehicle covered in Class 1		
3	Combination vehicle	GCW 12,001kg to 25,000kg	-
	Any vehicle covered in Class 1 & 2		
4	Rigid vehicle (including a tractor)	GLW over 18,000kg	-
	rigid vehicle towing a light trailer	GLW of rigid vehicle over 18,000kg	
	Rigid vehicle (including a tractor)	GLW over 18,000kg	-
	rigid vehicle towing a light trailer	GLW of rigid vehicle over 18,000kg	
	Any vehicle covered in Class 1 & 2		
5	Combination vehicle	GCW over 25,000kg	Combination vehicle
	Any vehicle covered in Class 1, 2, 3 & 4		
6L and 6R	Motorcycles acceptable under the learner approved motorcycle scheme (LAMS)		
	Moped or all-terrain vehicle		
6	Any motorcycle		
	Moped or all-terrain vehicle		

Further details of licencing and restrictions to specific vehicle operations can be found from NZTA Licencing Page: *https://www.nzta.govt.nz/driver-licences/*

SAFE DRIVING POLICY

DEVELOPMENT OF POLICY

The organisation shall develop a policy in line with the NZTA Safe Driving Policy Template *https://www.nzta.govt.nz/resources/your-safe-driving-policy/*

This template can be used to document requirements and provide information to workers on:

- Code of Conduct
- Driving hours and fatigue management
- Worker and Employer Responsibilities
- What to do in the event of a crash

IMPLEMENTATION OF POLICY

The organisation shall implement the requirements of the Safe Driving Policy by providing training and information sessions. Records of the implementation activities shall be retained for two years.

New workers induction shall include the requirements of the Safe Driving Policy.

MAINTENANCE AND INSPECTION OF FLEET VEHICLES

The organisation shall ensure that all vehicles in its fleet, both owned and hired are inspected and maintained in accordance with required intervals detailed by manufacturer or supplier.

Where defects or problems are reported by workers, vehicles shall be removed from use until inspected and repaired by a suitably qualified mechanic.

The organisation shall conduct periodic audits of third party mechanics/workshops to ensure appropriate oversight and quality assurance of maintenance activities. Contracted maintenance providers shall be asked to provide written records of maintenance activities and include associated quality assurance documentation.

All vehicles shall have a pre-use checklist that workers must complete before operating/driving. For light vehicles and cars, this may be based on NZTA pre-use inspection checklist. *https://www.nzta.govt.nz/commercial-driving/fleet-vehicles/managing-fleet-vehicles/* Any mobile plant, heavy vehicles, or other vehicles with modifications shall be inspected using a manufacturer supplied checklist where appropriate.

OVERTIME AND STANDBY WORKERS

The organisation shall ensure that driving risks associated with fatigue are identified and controlled. These controls and requirements shall be detailed in the Organisation's Safe Driving Policy. Good practice examples from transport and service industries include:

- Workers who operate Class 2, 3, 4 or 5 vehicles are required to have a minimum of 30 min rest, (not in a moving vehicle) after 5.5 hours of any type of working.
- Workers driving Class 1,2,3,4 or 5 vehicles shall have a 10 hour break from driving after any cumulative working day of 13 hours or longer.
- Workers of any vehicle type shall have a break after more than 2 hours of continuous driving.

There may be exemptions and circumstances where workers may not be able to meet the requirements of the Safe Driving Policy and associated statutory work/rest intervals. These may include short term arrangements or emergency works. In such situations, an exception to work outside the policy requirements will require the permission of operations manager, or equivalent.

OTHER GUIDELINES

Guideline 1: NZTA Organisational Safe Driving Policy Template and Guidelines *https://www.nzta.govt.nz/resources/your-safe-driving-policy/*

REFERENCES

WATER NEW ZEALAND PROCEDURES & GUIDELINES:

Health and Safety Procedures:

- Fuel Storage and Handling
- Job Safety Analysis
- Health and Safety Training Program
- Contractor Health and Safety Management

LEGISLATION, REGULATION AND STANDARDS

- Health and Safety at Work Act 2015
- Land Transport Act 1998
- Land Transport (Road User) Rule 2004
- Land Transport (Enforcement Powers) Amendment Act 2009
- NZTA Official New Zealand Road Code

MOBILE PLANT HEALTH AND SAFETY PROCEDURE

PURPOSE

To provide guidance to control the health and safety risks associated with the use of mobile plant and equipment. Where a contractor has been appointed as Principal to control works on site this procedure shall be adopted as guidance material good practice minimum standard.

PURCHASE OF MOBILE PLANT AND EQUIPMENT

TYPES OF EQUIPMENT

For the purposes of this procedure, mobile plant and equipment refers to equipment such as:

- forklifts
- loaders
- excavators
- tele - handlers
- dump trucks
- water carts
- dozers

HEALTH AND SAFETY PROCUREMENT CONSIDERATIONS

Health and safety aspects associated with the use and maintenance of mobile plant and equipment shall be considered and where possible, eliminated at the procurement phase.

The following factors should be considered when selection mobile plant for purchase:

- stability under all foreseeable operating conditions
- safe access to and from the cab and other working locations on the vehicle
- the ergonomics of seating, layout of cabin, operator controls
- effective braking systems
- adequate visibility for the driver all around the vehicle
- headlights, a horn, windscreen wipers and warning devices, physical guards to protect dangerous parts such as power take-off shafts, chain drives, trapping points and exposed exhaust pipes
- protection for the driver from work risks, falling from the vehicle, falling objects and the effects of the vehicle overturning
- protection for the driver from the weather, noise, vibration, noxious fumes and dusts
- it is easy to inspect and maintain

Operators and maintainers of plant and equipment shall be consulted and involved in the selection and purchase process, in line with worker engagement and consolation processes.

TRAINING AND COMPETENCY

REQUIREMENTS

All workers required to operate mobile plant and equipment shall be trained appropriately. This may include attending formal training to obtain recognised NZQA Unit Standards or manufacturer / supplier provided training.

The organisation shall ensure that workers are subject to practical training and assessment of their competency to operate mobile plant in a safe manner.

Practical training must cover aspects of operation, including

- start up and shut down of mobile plant
- training needs specific to the make and model of mobile plant
- safe operation
- use of required attachments
- dealing with emergencies, such as loss of control or loss of power

RECORDS OF TRAINING

Persons in control of the workplace shall maintain records of mobile plant and equipment training and make available during inspections and audits.

COLLISION AVOIDANCE AND PEDESTRIAN SAFETY

WARNING DEVICES

All mobile plant and equipment shall be fitted with warning devices that may include:

- Alarms, such as reversing beepers
- Lights, fixed headlights and rotating

Warning devices need to be suitable to the area the plant / equipment is operating in.

SITE LAYOUT AND TRAFFIC MANAGEMENT PLAN

Site shall develop and implement a traffic management plan to reduce the risks of collision. The plan shall include:

Speed limits

Speed limits shall be developed to be reflective of:

- Type and frequency of traffic movements on site
- Braking distances and estimated operator reaction times
- Condition of road surface
- Proximity to pedestrian routes or work areas.

Where required, fixed speed control devices, such as speed humps, shall be installed.

Road Markings and Signage

Line marking shall be used for all roadways and parking facilities in areas where there is a risk of mobile plant and equipment collision.

Markings shall delineate rights of way, paths and direction of travel.

Traffic signs must be:

- Posted in places that can be easily seen by mobile plant operators
- Included in employee and contractor induction information.

PEDESTRIAN ISOLATION

Where there is a risk of pedestrian collision, measures shall be developed to provide separation from mobile plant operating areas. These may include:

- Physical barriers
- Restrictive Zones
- Tactile markings and signs

OPERATING REQUIREMENTS

The organisation shall develop standard operating procedures, work instructions or similar that detail specific requirements for operation. These may include requirements such as:

- Use of seatbelts or ROPS
- Limited access areas
- Routine operator cleaning or maintenance activities
- Operating limitations of the plant / equipment
- Any modifications or non-standard attachments

PRE-START CHECKS

All mobile plant and equipment shall be subject to a pre-start check before use. The pre-start check shall include:

- Oil/fuel levels
- Lights/horn
- Identification of damage that could be considered dangerous or cause loss of control
- Objects in the cab that could become projectiles in the event of sudden braking
- Objects on the floor that could interfere with the operator's ability to use foot controls
- Tyre pressure and tread
- Wheel condition and tightness
- Lights, alarms/warning systems
- Brakes and hydraulic functions on the machine work
- Windscreen and mirrors
- Seat belts
- Vehicle registration and regulatory certification
- Attachments and power take off connections.

Where possible the pre-start checklist should be provided by manufacturer at time of supply.

The pre-start inspection shall include a mechanism to enable operators to report faults and remove plant / equipment from service pending further inspection or repair.

INSPECTION AND MAINTENANCE

The organisation shall ensure that there are inspection and maintenance schedules and plans in place for all mobile plant and equipment.

INSPECTION

As a minimum the organisation shall ensure that pre operational inspections are completed that look at:

- steering, mirrors, CCTV and other visibility aids, lights and indicators
- safety devices such as interlocks, warning devices and control mechanisms and systems
- starting and stopping systems

Pre start checks should be completed in accordance with manufactures instructions or supplied inspection checklists. Examples of pre-start checklists can be found from manufactures web sites, or from resources including WorkSafe New Zealand.

In addition to the daily pre-start check, more thorough inspections shall be completed by a competent person (such as a mechanic or fitter). Servicing shall be carried out on an hours or mileage basis in accordance with the manufacturer's instructions.

MAINTENANCE AND SERVICING

All mobile plant must be maintained and serviced so that the mobile plant remain in a fit for purpose condition.

The maintenance and servicing plan shall include:

- Servicing and maintenance requirements, based on manufacturers/suppliers instructions/specifications.
- The requirement for service suppliers to be approved by the mobile plant provider.
- Competency of those conducting servicing and maintenance operations.
- Responsibility for conducting maintenance and servicing.
- An appropriate designated service area (if service to be conducted on site).

If maintenance is provided by third party, or off site workshop, records and oversight of quality assurance processes shall be undertaken in accordance with requirements detailed in Health and Safety when driving.

RECORD KEEPING

The following records shall be maintained:

- Log book or register of inspections and maintenance activities.
- Copies of daily plant inspection checks.
- Incident reports and investigations involving mobile plant or equipment.
- Operator training and competency assessments.

REFERENCES

WATER NEW ZEALAND PROCEDURES & GUIDELINES:

Health and Safety Procedures:

- Contractor Health and Safety Management
- Job Safety Analysis
- Health and Safety Training Program
- Health and safety when driving

LEGISLATION, REGULATION AND STANDARDS

- Health and Safety at Work Act 2015
- Health and Safety in Employment Regulations 1995 (Part 2)
- Worksafe New Zealand Guidance: Mobile Plant Safety
- Operator protective structures on self-propelled mobile mechanical plant - Approved Code of Practice (ACOP)
- AS 4801 Health and Safety Management System

4.3 CHEMICAL SUBSTANCES AND HAZARDOUS SUBSTANCES

Unsafe use and handling of workplace chemicals and hazardous substances can cause serious illness, skin disease, poisoning and respiratory problems. Hazardous substances can be inhaled or absorbed through the skin and can cause both immediate and long-term health problems, including:

- poisoning
- irritation
- chemical burns
- sensitisation
- cancer
- birth defects.

They can also cause diseases of certain organs such as the skin, lungs, liver, kidneys and nervous system.

The high potential consequences of these materials requires organisations to have rigorous processes in place to ensure the safe storage, handling, use and disposal of chemical substances in all work environments. The information contained in this section of the guidelines provides the framework for effective risk management of workplace chemicals and hazardous substances.

The organisation can obtain health and safety information from Safety Data Sheets (SDS) that must be provided at the time of supply. This information can be used to develop effective safe operating procedures and emergency management plans. SDS must be made available to workers and should be retained in the same location as chemicals are stored, used or disposed.

ASBESTOS MANAGEMENT

The scope of the Asbestos Management procedure contained in this section of the guidelines covers asbestos material NOT associated with pipes or pipelines, i.e. asbestos material present in buildings, for example roof sheets, switchboards.

Organisations should refer to the industry "Water New Zealand, National Asbestos Cement Pressure Pipe Manual: Volume 1" for health and safety requirements when working with asbestos material containing pipes. This would include work practices associated with cutting into, removal, storage or replacement of ACM pipes.

PURPOSE

To ensure that workers are aware of the requirements for control of Health and Safety Risks associated with Asbestos Containing Materials (ACM).

The requirements of this procedure apply to operational and construction related activities.

Where a contractor has been appointed as Principal to control works on site this procedure shall be adopted as a minimum standard (best practice guidance material) if the Principal Contractor does not have an equivalent procedure.

The users will still need to evaluate and verify all actual conditions (for on-site and off-site works) involving ACM.

ASBESTOS MANAGEMENT PROCESS

ASBESTOS DATABASE

An asbestos database should be maintained at the workplace to identify and management asbestos. The database must record the following:

- All ACM identified at workplaces
- ACM that has been removed from workplaces
- Materials tested and were subsequently found to contain no asbestos
- Certificates of analysis for all asbestos tests undertaken

ASBESTOS REGISTER

An asbestos register must be developed and maintained for all workplaces where ACM has been identified or is assumed to be in the workplace. These registers must be easily accessible to all workers entering or undertaking work at workplaces.

Asbestos registers are to be maintained and reviewed as required by the Health and Safety at Work (Asbestos) Regulations 2016.

ASBESTOS WARNING SIGNS AND LABELS

Where practicable, asbestos warning signs and labels should be installed to ensure that asbestos is not unknowingly disturbed without the appropriate precautions being taken. The presence and location of ACM in the workplace should be confirmed by installing asbestos warning signs at all of the main entrances to workplace where ACM is present and any areas within a workplace which contains ACM.

Examples of warning signs are shown below.

ASBESTOS MANAGEMENT PLAN

Where ACM has been identified within a workplace, an Asbestos Management Plan must be developed, implemented and maintained as required by the Health and Safety at Work (Asbestos) Regulations 2016. This must be monitored in conjunction with relevant operational, maintenance and project delivery stakeholders.

The asbestos management plan will reflect a hierarchy that where possible asbestos will:

- Be left in situ and monitored for ongoing stability and integrity.
- Removed when stability or integrity presents a risk of exposure to ACM by workers.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

In addition to the company minimum requirements for PPE, Masks (P2) may be provided in the event of accidental discovery, however workers should evacuate the immediate area and position themselves upwind of the site.

ACM RELATED WORK

Only appropriately licenced and experienced contractors are permitted to undertake ACM-related work.

DEMOLITION, OR REFURBISHMENT OF STRUCTURES OR PLANT

In accordance with the Health and Safety at Work (Asbestos) Regulations 2016, demolition or refurbishment of structures or plant, including works conducted on utilities infrastructure (not including minor or routine maintenance work or other minor work), the organisation must determine if ACM is present. A licenced and competent assessor should be engaged to accomplish this.

If ACM is found to be present, then an ACM control plan must be included in the Project Management Plan, including plans for the removal of ACM by a licenced and competent removalist, as required by the Health and Safety at Work (Asbestos) Regulations 2016.

TRAINING

All workers must have the skills and knowledge to understand the hazards associated with exposure to ACM and the risk controls implemented for their protection. All workers must attend an ACM Awareness course. This training should include actions to take in the event of accidental exposure and/or accidental discovery of ACM.

Project/Job Supervisors should undertake ACM management and emergency management training, thus allowing them to respond appropriately in the event that accidental discovery occurs.

At the time of publishing this guideline Worksafe was developing training requirements for asbestos removal work. It is suggested that water supply managers maintain a register of contractors who have received adequate training (in house or otherwise), to conduct work on above or below ground Asbestos Containing Materials.

TRAINING RECORDS

Persons in control of the workplace shall maintain records of ACM Awareness training and other ACM training and make available during audits and inspections.

ACCIDENTAL DISCOVERY

In the event of accidental discovery of ACM, stop work/s immediately. Contact the Project Manager or team leader to activate ACM accidental discovery procedures. Accidental discovery of ACM should also be included in the work method statements/work instructions.

If in doubt treat the product as ACM until identified otherwise.

NOTIFIABLE INCIDENT

Any Notifiable Incident as identified by the Health and Safety at Work Act 2015 and the Health and Safety at Work (Asbestos) Regulation 2016, must be notified within the specified period of time. Incidents will be managed according to the incident management procedures.

PROHIBITED WORK PRACTICES

The following work practices are prohibited due to the risks of ACM exposure:

- Work practices in the vicinity of ACM that may disturb or damage the material, cladding, enclosure, sealant or containment barriers
- Workers using high pressure water process to clean an ACM product or to clean up debris containing ACM
- Workers using compressed air to clean ACM products or a surface where debris containing ACM is present

RECORD KEEPING

All ACM documentation, including ACM Management Plans, incident reports, and ACM testing and removal records shall be retained by and be readily available upon request.

REFERENCES

WATER NEW ZEALAND PROCEDURES & GUIDELINES:

Water New Zealand Asbestos Cement Pipe Manual

Health and Safety Procedures:

- Contractor Health and Safety Management
- Hazard Identification, Risk Assessment and Control
- Health and Safety Training Program
- Incident Reporting and Investigation

Health and Safety Guidelines:

- Water New Zealand National Asbestos Cement Pressure Pipe Manual: Volume 1

LEGISLATION, REGULATION AND STANDARDS

- Health and Safety at Work Act 2015
- Health and Safety at work (General Risk and Workplace Management) Regulations 2016
- Health and Safety at work (Asbestos) Regulations 2016
- Health and Safety at work (Worker Engagement, Participation and Representation) Regulations 2016
- Approved Codes of Practice - Management and Removal of Asbestos November 2016
- Water NZ National Asbestos Cement Pressure Pipe Manual

FUEL HANDLING AND STORAGE PROCEDURE

PURPOSE

To provide information and guidance for the safe storage and handling of fuel, including petrol and diesel.

PERMANENT FUEL STORAGE

HAZARDOUS SUBSTANCES & NEW O RGANISMS (HSNO) REGULATIONS 1996 REQUIREMENTS

HSNO Regulations detail specific requirements for storage of diesel and petrol summarised below:

DIESEL

DIESEL STORED (LITRES)	100 -500	500 -1000	1000 -2000	2000- 5000	15000- 0,000+
Supplier documents Required?	Yes	Yes	Yes	Yes	Yes
Person in Charge Documentation Required?	Yes	Yes	Yes	Yes	Yes
Fire Extinguishers		2	2	2	2
Signage					Yes
Emergency Response Plans					Yes
Secondary Containment					Yes
Stationary Container System Test Certificate					Yes

PETROL

PETROL STORED (LITRES)	1 - 100	1 - 500	1000 - 2500	2500 - 5000	5000 +
Supplier documents Required?	Yes	Yes	Yes	Yes	Yes
Person in Charge Documentation Required?	Yes	Yes	Yes	Yes	Yes
Fuel Handling Training?	Yes	Yes	Yes	Yes	Yes
Fire Extinguishers	1	2	2	2	2
Signage		Yes	Yes	Yes	Yes
Emergency Response Plans		Yes	Yes	Yes	Yes
Secondary Containment		Yes	Yes	Yes	Yes
Location Test Certificate?		Yes	Yes	Yes	Yes
Secondary Container test certificate?				Yes	Yes

FLAMMABLE LIQUID SEPARATION

Fuel storage locations must be situated a minimum distance from buildings and other areas of land where people may be present. Minimum separation distances tabulated below are dependent on the nature of the land use, the volume and type of fuel stored:

TANK VOLUME (LITRES)	DISTANCE REQUIRED (METRES) HIGH INTENSITY LAND: BUILDINGS, WORKPLACES, AMENITIES AND WORK AREAS.		DISTANCE REQUIRED: (METRES) LOW INTENSITY LAND: PARKS, RESERVES, ETC.
600	2	0	0
1,000	2	1.5	0
2.500	3	2	0
5,000	4	3	2
25,000	5	4	3

Where fire extinguishers are required they should be dry powder type of at least 2 KG. Extinguishers shall be located within 30 metres of the fuel storage area, but not attached to or directly adjacent to the fuel storage tank.

SITE SIGNAGE AND DOCUMENTATION

When a site has more than 50 litres of petrol, or 10,000 litres of diesel storage the organisation must ensure appropriate signs are in place to notify workers, public and emergency services of the presence of fuel.

Signs must be at least A3 in size and display:

- Information about the hazardous mature of the fuel stored
- Information about ignition sources and how to ensure safety of stored fuel
- Information about contacts for emergency situations

Storage of petrol in quantities greater than 50 litres requires a Location Test Certificate to be obtained to approve the storage location. The test certifier will visit site to confirm that the substance is stored safely, consistent with the hazardous substances legislation.

Quantities of more than 100 litres of petrol requires storage in a secure and locked facility.

Diesel does not require a Location Test Certificate or an approved handler. When stored in a bulk storage tank of more than 5,000 litres, a Stationary Container Test Certificate is required.

REQUIREMENTS FOR SECONDARY CONTAINMENT

Secondary containment, are systems that contain fuel in the event of spills or tank failure. The containment area must be capable of holding 110% of the capacity of the storage tank.

Secondary containment may be in the form of a bund, or a double skinned tank. Bunded areas must be maintained clean of rubbish and water.

Tanks Installed before 2004: Bunded area required for diesel > 2,500 litres and petrol > 2,000 litres

Tanks Installed after 2004: Bunded area required for diesel and petrol > 2,000 litres.

TRAINING

Workers who are required to use fuel storage tanks must be properly trained to:

- Use the storage system correctly
- Understand the potential hazards when using the storage facility
- Implement correct safety controls, including use of PPE
- Respond in case of emergency

PORTABLE CONTAINERS

Fuel must only ever be decanted into, and used from, approved, labelled containers.

Fuel containers should not be overfilled – ideally there should be a gap of 10% of the total container height from the top of the stored fuel surface to the top of the container. When fuel gets warm some of the liquid will turn into vapour and this will make the container expand.

Petrol should only be stored in containers with the correct lid which must always be tightly fastened.

Petrol containers must not be left in direct sunlight or in the boot of a car, and should be stored in a cool place.

Containers of fuel, must be secure when transported.

FUEL HANDLING

GENERAL PRECAUTIONS

When handling fuel, always ensure that the appropriate Material Safety Data Sheet (MSDS) is available and that persons handling fuel have read and understand the requirements of the MSDS.

Ensure that fuel handling is conducted away from ignition sources.

Turn off vehicles/engines when refuelling vehicles or equipment.

Personal Protective Equipment (PPE), including gloves, eye protection and skin protection must be worn when handling fuel. If there are dangers of exposure to vapours that natural or mechanical ventilation cannot eliminate then suitable respiratory protection shall be worn.

Persons handling fuel, shall be trained to the requirements outlined in this procedure.

EMERGENCY RESPONSE

An Emergency Response Plan (ERP) shall be developed when more than 2,000 litres of fuel are stored at a site.

The ERP must provide:

- information about emergencies that are have been determined as reasonably likely, based on risk assessment to occur at the fuel storage area
- details of actions to be taken in the event of an emergency
- details and contact information of people with responsibilities or actions in the event of emergencies
- information on the location, type and use of equipment to respond to emergencies
- contact details for local emergency services

The organisation must ensure that the ERP is tested and reviewed at least every 12 months. Records of testing and review activities shall be retained for 2 years.

REFERENCES

WATER NEW ZEALAND PROCEDURES & GUIDELINES:

Health and Safety Procedures:

- Contractor Health and Safety Management
- Mobile Plant and Equipment
- Health and Safety in Design
- Workplace Chemicals
- Job Safety Analysis
- Health and Safety Training Program

LEGISLATION, REGULATION AND STANDARDS

- Health and Safety at Work Act 2015
- Hazardous Substances & New Organisms (HSNO) Regulations 1996
- HSNO Guidance: Diesel: WorkSafe New Zealand:

http://www.worksafe.govt.nz/worksafe/information-guidance/all-guidance-items/hsno/hsno-guidance-pages/diesel

- HSNO Guidance: Petrol WorkSafe New Zealand:

http://www.worksafe.govt.nz/worksafe/information-guidance/all-guidance-items/hsno/hsno-guidance-pages/petrol

- AS1319 Symbolic Safety Signs
- AS1692 Tanks for Flammable and Combustible Liquids
- AS1940 The Storage and Handling of Flammable and Combustible Liquids

CHEMICAL MANAGEMENT HEALTH AND SAFETY PROCEDURE

PURPOSE

This procedure provides guidance and information to enable the effective management of hazards associated with working with chemical substances, including hazardous substances as defined by the HSNO Act.

The objective of the procedure is to ensure a systematic approach ensure risks are assessed and controlled as far as reasonably practicable.

HAZARDOUS SUBSTANCE REQUIREMENTS

All hazardous substances are required to have approval under the Hazardous Substances and New Organisms (HSNO) Act. When a substance is approved, controls are applied that are designed to manage any risk from using, storing, transporting and disposing of the substance.

The Environmental Protection Authority is the regulatory body responsible for assessment and approval authorities for organisations and individuals using hazardous substances. Information about specific requirements may be found from the links below:

GENERAL GUIDANCE

http://www.hazardoussubstances.govt.nz/guide

http://www.epa.govt.nz/hazardous-substances/approvals/Pages/default.aspx

Hazardous substances, including petrol, solvents, industrial chemicals, agrichemicals, household cleaners and cosmetics, need to be approved before they can be used in New Zealand

Under the HSNO Act, a hazardous substance is any substance that has one or more of the following properties above specified levels:

- an explosive nature (including fireworks)
- flammability
- ability to oxidise (i.e. accelerate a fire)
- corrosiveness
- acute or chronic toxicity (toxic to humans)
- ecotoxicity, with or without bioaccumulation (i.e. can kill living things either directly or by building up in the environment)
- can generate a hazardous substance on contact with air or water.

Approvals are also sometimes needed for the people who use them, as well as the locations they are in, and certain types of storage facilities and equipment (for example tanks, gas cylinders).

Hazard Classification, Approvals and Controls

http://www.hazardoussubstances.govt.nz/media/19443/hazard_classification_approvals_and_controls.pdf

Understanding and Managing Effects to Health

http://www.hazardoussubstances.govt.nz/media/19446/keep_safe_with_hazardous_substances.pdf

Hazardous Substance Information

http://www.hazardoussubstances.govt.nz/media/19440/hazardous_substance_information.pdf

Hazardous Substance Storage Requirements

http://www.hazardoussubstances.govt.nz/media/19452/store_hazardous_substances_safely.pdf

Hazardous Substance Emergency Response Requirements

http://www.hazardoussubstances.govt.nz/media/19434/emergency_preparation.pdf

Hazardous Substance Test Certificate Requirements

http://www.hazardoussubstances.govt.nz/media/19455/test_certificates.pdf

GENERAL WORKPLACE CHEMICAL MANAGEMENT

CHEMICAL REGISTER AND SAFETY DATA SHEETS

The responsible person shall ensure that an inventory of all chemicals and hazardous substances shall be prepared and maintained. This shall include, consumable chemicals, process chemicals and laboratory chemicals. The register should identify the location where the material is used. A template for a workplace chemical register is provided as attachment 1 to this procedure. The chemical register shall be made available at the workplace.

Safety Data Sheets (SDS) of each hazardous substance shall be readily accessible to all workers who may reasonably use or come into contact with the substance. The information on the safety data sheet must be available to a person handling the substance within 10 minutes of the information being required.

Safety Data Sheets (SDSs) are designed to protect the health and safety of people in the workplace by providing information on the hazards of substances and how they should be safely used, stored, transported and disposed of. SDSs also describe emergency procedures, such as what to do in the event of a spill or fire. Ideally SDSs should not be more than five years old. SDS should be provided by suppliers at time of delivery / supply, if they are not made available then they should be requested from the supplier.

SDSs must include information under each of the following headings:

1. Product and company identification
2. Hazard(s) identification
3. Composition and information on ingredients
4. First-aid measures
5. Fire-fighting measures
6. Spillage, accidental release measures
7. Handling and storage
8. Exposure controls and personal protection
9. Physical and chemical properties
10. Stability and reactivity
11. Toxicological information
12. Ecological information
13. Disposal considerations
14. Transport information
15. Regulatory information
16. Other information

CHEMICAL STORAGE AND HANDLING

The SDS will provide details on storage requirements for specific chemicals. This will include aspects such as compatibility and separation requirements. The responsible person should ensure that quantities of chemicals stored are kept to a minimum.

Certain types of hazardous substances need to have sufficient distances between them to eliminate the risk of fire, explosion, or accumulation of toxic gases or vapours from a leak or spillage, etc. In order to prevent unwanted reactions from occurring in a storage area, incompatible chemicals should be separated and stored in compatible groups.

Wherever possible, workplace chemicals and hazardous substances must be stored in original containers and labelled as supplied. It is prohibited to use drink or food containers (discarded or new) to store chemicals. If transferred to or kept in other containers, these must be compatible, suitable for the purpose and labelled containers including lids, caps and seals, must be checked regularly for deterioration and replaced when necessary.

Incompatible classes of dangerous goods must be segregated to prevent any dangerous reactions. Segregation may be achieved by the use of an impervious barrier or by the separation distance sufficient to prevent contamination (a distance of 1.5 metres should be sufficient in most circumstances).

Specific details on storage requirements for hazardous substances may be found from the publication Your Practical Guide to Working safely with Hazardous Substances:

http://www.hazardoussubstances.govt.nz/media/19452/store_hazardous_substances_safely.pdf

Attachment 2 to this procedure provides a chart to enable safe segregation of specific types of hazardous substances and workplace chemicals to be assessed.

VENTILATION

The purpose of ventilation is to create and maintain a safe working atmosphere in an area where chemicals are stored and handled. Ventilation is achieved by the introduction or recirculation of air by natural or mechanical means.

A safe working atmosphere is characterised by:

- sufficient oxygen levels for breathing;
- concentrations of hazardous gases, vapours, mists, fumes and dusts are within relevant exposure standards;
- concentrations of flammable gases, vapours, mists, fumes and dusts are below 5% of their lower explosion limit; and
- avoidance of the build-up of heat and extremes of temperature.

The different types of ventilation available include:

- natural ventilation
- local exhaust ventilation
- mechanical ventilation

HANDLING

Handling and use of workplace chemicals can expose workers to health hazards due to:

- Inhalation of fumes
- Contact with the skin
- Ingestion

All protective, such as eye protection, respiratory protection, gloves, aprons and rubber boots clothing specified in the MSDS must be available and must be worn.

Suitable absorption materials should be readily available for dealing with spills. Any dangerous goods or hazardous substance spill must be cleaned up immediately, taking appropriate precautions for the hazards of the material.

STANDARD OPERATING PROCEDURES

The responsible person shall ensure that any operating procedures, risk control cards or other worker guidance material related to the handling, storage and use of workplace chemicals includes ALL relevant information from a SDS not less than 5 years old.

RECORD KEEPING

Records of chemical inventories shall be kept on site, along with current copies of safety data sheets that are not less than 5 years old.

TRAINING REQUIREMENTS

Workers shall be trained in specific requirements relating to:

- Handling of Workplace Chemicals
- Use of Spill Kits
- PPE required to be used when handling or working with workplace chemicals

RECORDS OF TRAINING

Persons in control of the workplace shall maintain records of workplace chemical training and make available during inspections and audits.

ATTACHMENTS

Attachment 1: Workplace Chemical Register

Attachment 2: Dangerous Goods Segregation Chart

REFERENCES

Water New Zealand Procedures & Guidelines:

Health and Safety Procedures:

- Contractor Health and Safety Management
- Job Safety Analysis
- Fuel Handling and Storage
- Asbestos Management
- Biological Hazards
- Health and Safety Training Program

LEGISLATION, REGULATION AND STANDARDS

- Health and Safety at Work Act 2015
- Health and Safety in Employment Regulations 1995
- Hazardous Substances and New Organisms (HSNO) Act 1996
- AS 1940:2004 The storage and handling of flammable and combustible liquids
- AS 2714:2008The storage and handling of organic peroxides
- AS 3780-2008 The storage and handling of corrosive substances
- AS 4326-2008 The storage and handling of oxidising agents
- AS/NZS 2243.10:2004 Safety in laboratories. Part 10– Storage of chemicals
- AS/NZS 3833:2007 The storage and handling of mixed classes of dangerous goods, in packages and intermediate bulk containers
- AS/NZS 4452:1997 The storage and handling of toxic substances
- AS/NZS 5026:2012 The storage and handling of Class 4 Dangerous Goods

WORKPLACE CHEMICAL REGISTER TEMPLATE

All chemicals stored on site must be detailed below.

Name of Site or Facility		Address:			Operations Lead:		
NAME OF CHEMICAL	**LOCATION OF CHEMICAL**	**CURRENT SDS (YES/NO)**	**HAZARDOUS (YES/NO)**	**DANGEROUS GOODS (YES/NO)**	**QUANTITY**	**RISK ASSESSMENT YES/NO)**	**USES**

Completed by:	Position:	Date:
Reviewed by:	Position:	Date:
Reviewed by:	Position:	Date:

DANGEROUS GOODS SEGREGATION CHART

NOTES:

1 In all cases, the MSDS or supplier of the goods should be consulted.

2 The segregation of dangerous goods of Division 1.4S may be necessary. Consult the MSDS or the supplier of the goods.

3 Combustible liquids shall be segregated in the same manner as flammable liquids of Class 3.

4 Dangerous goods of Class 9 should be segregated in accordance with MSDS.

6 If the dangerous goods have a Subrisk of another class, then the segregation requirements for the Subrisk need to be determined and the more stringent segregation requirements applied.

7 Where smoke detectors are to be stored, their supplier should be consulted and any specific storage and handling recommendations followed.

LEGEND:

Compatible	Dangerous goods of the same Class should be compatible; consult MSDS or suppliers about requirements for individual substances.
*	Dangerous goods of the same Class could be incompatible or react dangerously. Consult the MSDS or suppliers about requirements for individual substances.
Segregation may be necessary	Segregation of these Classes may be necessary. Consult the MSDS or supplier.
KEEP APART	Dangerous goods of these Classes should be kept apart by at least 3 m. Consult the MSDS or supplier.
Segregate from	These combinations of dangerous goods should segregated by at least 5 m and kept in separate compounds or building compartments.
ISOLATE	This requirement applies to organic peroxides, for which dedicated stores or storage cabinets are recommended. Adequate separation from other buildings and boundaries is required.

4.4 ADMINISTRATION AND SUPPORT SERVICES

There are many workers employed in administration or business support services that are predominantly office based. While working in an office may seem relatively safe, there are many injuries that can occur in this environment.

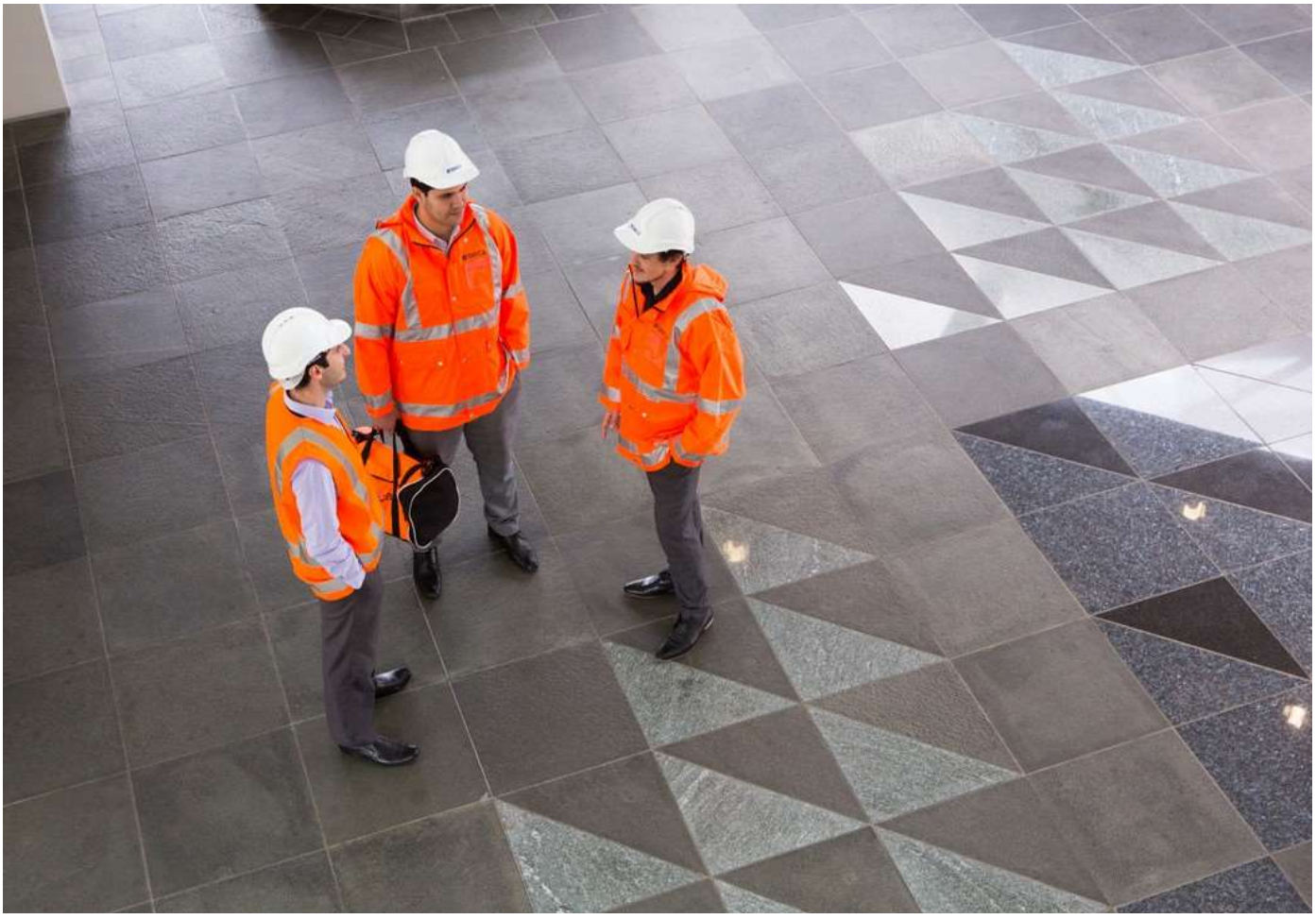
Office workers often spend much of their day sitting and operating office equipment such as computers and telephones. While these activities pose little harm when done for short periods of time, constantly performing these types of activities can cause injuries.

The most common risks faced by office based workers are musculoskeletal disorders from repetitive use of the hands to operate computers, sort paper or use office equipment. Other common musculoskeletal disorders are neck and back pain from prolonged sitting or standing as well as slips trips, falls.

Hazards can include:

- Physical, Examples: tripping or slipping hazards, glare or reflections from computer screens, hot components of photocopiers, poorly designed chairs that do not provide adequate back support, and tasks that demand prolonged work in a fixed posture
- Psychological, Examples: the need to complete excessive workloads under pressure, stress, inadequate recognition for work performed, lack of job satisfaction, or repetitive work
- Mechanical Examples: getting 'caught' by equipment and filing cabinets that tend to tip when heavily laden top drawers are open
- Chemical Examples: vapours or fumes from paint, solvents and photocopier toner
- Electrical Examples: damaged electrical cords or overloaded power points that may cause electric shock

This section of the guidelines will help organisations identify and understand the risks of office-based work, and will explain how to make your workplace safe.



OFFICE HEALTH AND SAFETY PROCEDURE

PURPOSE

This procedure provides guidance and information to enable the health and safety management of hazards associated with working in office environments.

The objective of the procedure is to ensure a systematic approach ensure risks are assessed and controlled as far as reasonably practicable.

GENERAL REQUIREMENTS

CONSULTATION AND ENGAGEMENT

Office workers shall be consulted in matters that may affect their workplace health and safety. Workers shall be included in activities to identify hazards and develop suitable controls. Outcomes of inspections, incident investigations, including details of corrective/preventative actions shall be communicated to workers.

There shall be appropriate representation of office workers on the organisation's health and safety committee.

Details on consultation, communication and health and safety committees are contained in specific model procedures. These may be found in the Consultation and Communication section of the Water New Zealand health and safety guidelines.

HAZARD IDENTIFICATION AND RISK ASSESSMENT

Health and safety hazards associated with working in the organisation's office environments shall be identified and recorded in the health and safety risk register.

The levels of risks shall be assessed and identified/implemented controls detailed in the register. Further controls, established in accordance with the hierarchy of control shall be developed where unacceptable risk levels remain with current controls implemented.

Office hazards may be identified by inspection and workplace reviews and/or by holding a workshop with representative workers. Information about potential controls, specific to office activities is contained in this procedure.

Hazard identification should look as aspects such as:

- Workstation ergonomics
- Storage and access arrangements
- Paths of travel
- Lighting and thermal comfort
- Amenities and worker facilities
- Security, building access and car parking
- Emergency evacuation points and equipment

Details and tools for completing risk assessments and developing risk registers are contained in the "Hazard, Identification, Risk Assessment and Control" section of the of the Water New Zealand health and safety guidelines.

CONTROLS FOR OFFICE WORK ACTIVITIES

The information below is provided to enable organisations to develop controls and where appropriate, work instructions relating to typical office duties. The hazard identification process will provide further information about organisational specific hazards. Detailed information and further examples of good practice risk controls are contained in the "Office Wise" document referenced at the end of this procedure.

TYPICAL OFFICE ACTIVITIES

Activities undertaken within the office environment include:

- Use of computers.
- Use of photocopiers and fax machines/telephones.
- Use of document shredders.
- Storage of materials, documents and general office supplies.
- Document collation and binding/ stapling.
- Archiving.
- Driving.
- Preparation of drinks and food (for personal use).
- Office cleaning.
- Window cleaning.
- Air conditioner servicing and building maintenance.

EXAMPLE CONTROLS FOR COMPUTER / SCREEN BASED WORK

- All workers shall complete an assessment of their computer workstation using guidelines contained in attachment one to this procedure.
- Workstation and computer equipment shall be adjustable to enable workstations to be correctly set up following an assessment.
- Workers shall take regular breaks from their workstation, ideally at intervals not less than one hour apart. Breaks can include getting documents from printers, making drinks or other activities that provide opportunity to stand/walk and stop screen based work.
- LCD screen shall be provided to reduce eye strain and potential eyesight damage.
- Ergonomic, wireless accessories, such as mouse, shall be provided where required by workers, or where identified through the risk assessment process.

Full details of safe and healthy work practices associated with computers is referenced at the end of this procedure.

USE OF ELECTRICAL EQUIPMENT

- All electrically operated equipment including kitchen appliances and utility room machines are to be tested and tagged at yearly intervals. Tests are to be conducted by a competent person. Tags are to display the `Test Date' and the `Next Due Test Date'.
- Electrical cords and power boxes are to be placed in such position that the likelihood of damage is minimised and in addition, to eliminate the risk of slip, trip and fall incidents.
- Damaged electrical leads and equipment are to be removed from use.

USE OF SHREDDERS AND GUILLOTINE

- Do not lean over the shredder or guillotine when in use if wearing loose jewellery, necktie or if you have long hair as entanglement may occur.
- Switch off and unplug the shredder before removing any paper jams.
- Always ensure the guillotine bed is lying flat on the table or bench.
- Do not leave the guillotine blade half way past the vertical position as this increases the risk of it dropping on your fingers or hand.
- Use guillotine in an un-congested area to prevent accidental bumps from passing personnel.
- Use the swivel clamps to hold the paper on the guillotine when cutting.

USE OF PRINTER AND COPIERS

- Do not photocopy material with the lid of the photocopier in a raised position as the photocopier scanning beam may damage the eyes.
- When removing jammed paper beware of hot surfaces and follow all directions and warning signs printed on the unit.
- Care is to be taken when refilling/replacing print toner, in order to avoid spills and the inhalation of toner powder. The MSDS (Material Safety Data Sheet) for each type of print cartridge shall be available at the printer/copier location.

STORAGE, ACCESS AND LIFTING

- Stepladders are only to be used for access to shelving above head-height and for the purpose of removing individual files from archive boxes. Full archive boxes are not to be lifted or removed from archive shelves via stepladder access.
- Ask for assistance in lifting items from upper shelves (if necessary).
- Do not lift beyond your capacity.
- Do not stack above head height.
- Do not overfill boxes and if necessary ask for assistance when lifting and carrying.
- Use flat or sack trolleys to move boxes or office supplies to storage areas.
- If the load requires using both hands, then use either/or a trolley of elevator, rather than using the stairs.

GENERAL OFFICE HOUSEKEEPING AND PEDESTRIAN MOVEMENT

- Arrangement shall be made for regular inventory management and re-organising of stationary storage rooms and cupboards as necessary. This should be repeated in meeting rooms and lunch areas.
- Minimise material stored on the floor and keep walkways and passageways clear of slip, trip and fall hazards.
- Ensure that paths of travel to all emergency exits are marked and remain free of obstacles and storage areas.
- Maintain a tidy workstation, keep folders and documents off the floor and neatly stored at your workstation.
- Do not run in the office, walk at a safe pace and remain alert for others. Take care when walking around blind corners.
- Where appropriate fix convex mirrors to blind corners in high traffic areas.
- Do not run or jump on the stairs, take one step at a time.

CAR PARKING

- Vehicle drivers must be made aware of pedestrian crossing and paths of travel. Speed limits and restriction devices shall be used to an appropriate safe travelling speed (walking pace) within car parking areas.

In addition, drivers using the car park must:

- Exercise extreme care when backing vehicles – may require assistance to guide vehcile.
- Stop vehicle, check before backing around lifts, stair wells and other access points that enter the car park area.
- Be aware of possible afternoon sun glare which from time to time may impair driver vision when leaving the car park.
- Be aware of traffic entering and exiting car-park.

VISITOR MANAGEMENT

To maintain security of the premises and to be able to account for visitors in the event of an emergency:

- All visitors, contractors, delivery drivers (entering office areas) are to be directed to report to the reception desks and sign-in to the visitors log before commencing work activities.
- Employees who receive visitors are to ensure that their visitors sign in upon arrival and sign out in the visitors log upon departure.

OFFICE EMERGENCY RESPONSE

EMERGENCY RESPONSE PLAN

An emergency response plan (ERP) shall be developed for office work areas by the HS manager and/or coordinator, in conjunction with representatives from office work areas and teams. Where appropriate neighbouring businesses, and potentially emergency services, shall be consulted to ensure common understanding alignment of response plans.

The ERP shall include, as a minimum the following emergency scenarios:

- Fire
- Medical
- Building Structure Damage
- Suspicious Object
- Bomb Threat
- Adjacent operations and businesses.
- Natural disasters, e.g. earthquakes, flooding etc.

Copies of the ERP shall be made available at prominent locations, including health and safety notice boards and the organisations Intranet.

All workers and visitor inductions shall include an explanation of the ERP and where it may be accessed.

The ERP, evacuation alarm, emergency exit lights, fire extinguishers and fire hose reels shall be checked at 6 monthly intervals during routine office inspections. The outcome of inspection is to be recorded. An evacuation drill will be carried out twice each year.

EMERGENCY RESPONSE TEAM

The health and safety manager/coordinator shall ensure that there is an office emergency response team, comprising of first aiders and fire wardens to meet the requirements of the emergency response plan.

During a medical emergency, appropriately trained First Aid personnel will respond to the emergency and render assistance as required.

During an event that requires building evacuation the floor warden will respond to, or activate the Evacuation Alarm and advise personnel to evacuate the building and go to the evacuation assembly point as identified in the ERP.

Upon arrival of external emergency services the Floor Warden will relinquish his/her duties, hand the emergency situation over to attending emergency services. The warden should remain available at the building evacuation assembly point until external emergency services have deemed the building safe for re-occupancy.

The Floor Warden is to inform Senior Management of all events or emergencies that occur within the immediate area and surrounds of the building.

ROLES AND RESPONSIBILITIES

Floor Warden

The Floor Warden is identifiable by a Yellow Warden High-Viz Vest and will be in command of all emergency situations in the offices until the handover of the emergency situation to external emergency service personnel. The Floor Warden will be responsible for the following:

- Reporting directly to the most senior manager on the status of the emergency.
- Maintaining an accurate timetable and log of events that take place during an emergency situation or emergency exercise.
- The safe and orderly evacuation of the premises by all occupants, when required.

On becoming aware of an emergency, the Floor Warden will take the following actions:

- Ascertain the nature of the emergency and determine appropriate actions.
- Commence building evacuation if alarm sounds.
- Ensure that the appropriate emergency services have been notified.

If an Emergency situation requires building evacuation, the Floor Warden shall:

- Ensure that all personnel have been advised of the emergency situation and commenced evacuation and take control of building entry.
- Obtain the names and location of employees still remaining within the building.
- Brief the emergency services upon their arrival of the emergency status and number of employees still within the building.
- Act on advice and instructions given from external emergency services personnel.
- On notification from external emergency services, communicate and co-ordinate building re-entry with Building Emergency Warden.

First Aid personnel

First Aiders, on being advised of a medical emergency shall take the following actions:

- Render first aid to injured persons (only when safe to do so).
- Communicate with the Floor Warden regarding the actions to be taken.
- Record any first aid actions taken.
- Assist the Floor Warden with mobility impaired persons during an evacuation (only when safe to do so).
- In addition, First Aiders (as part of their routine duties) are to ensure that the First Aid Kits are replenished as necessary.

MANAGEMENT OF CONTRACTOR ACTIVITIES

Contractors completing maintenance or repair work shall be engaged and managed in line with the process contained in the Contractor Health and Safety Management Procedure.

It is important that proposed activities and work methods are reviewed prior to work commencing. Workers in the vicinity of work may require temporary relocation. A physical delineation shall be established around any repair or maintenance work area.

TRAINING REQUIREMENTS

All visitors' workers shall receive information about the emergency response plan as part of health and safety induction.

The HS manager/coordinator shall ensure that nominated first aiders and floor wardens shall receive appropriate initial and refresher training.

OTHER GUIDELINES

Guideline 1: Office Wise Guide to Health and Safety:

http://www.worksafe.vic.gov.au/__data/assets/pdf_file/0016/3634/Officewise_web.pdf

Guideline 2: ACC Guidelines for Using Computers

http://www.acc.co.nz/PRD_EXT_CSMP/groups/external_ip/documents/guide/wpc090196.pdf

Attachment 1: Workstation Self-Assessment Check

REFERENCES

WATER NEW ZEALAND PROCEDURES & GUIDELINES:

Health and Safety Procedures:

- Health and Safety Communication and Consultation
- Hazard Identification Risk Assessment and Control
- Health and Safety Training Program
- Contractor Health and Safety Management

LEGISLATION, REGULATION AND STANDARDS

- Health and Safety at Work Act 2015
- Health and Safety in Employment Regulations 1995

WORKSTATION ASSESSMENT AND INFORMATION ATTACHMENT

ASSESSMENT

This checklist should be completed by workers on an annual basis, or whenever they relocate workstations or are experiencing discomfort whilst performing their normal work duties.

Advice on completing a workstation self-assessment can be provided by the health and safety manager and/or coordinator. If employees continue to experience discomfort after completing a workstation self-assessment, and after monitoring for several days, they should speak with their immediate supervisor to complete a further assessment.

Name.....Phone/Ext No.....

Desk location.....

Date of self-assessment.....

Supervisor/Manager name.....

If you respond 'no' to any of the following questions, adjust your workstation by following the suggested actions.

SELF-ASSESSMENT CHECKLIST	YES/ NO	ADJUSTMENT MADE?	POSSIBLE ADJUSTMENTS
CHAIR			
Seat Height			
Are your thighs approximately horizontal, with feet flat on the floor or footrest?			• Obtain a footrest via HSE
Are your shoulders relaxed, with your arms hanging freely?			• Lower the chair
Is there clearance between your thighs and the underside of the desk?			• Raise the chair
Are your forearms in a horizontal position whilst typing, or on a slight downwards slope?			• Remove the arm rests
Back Support			
Is the lumbar support positioned snugly into the inwards curve of your lower back? (near the top of the waistband on your pants)			• Raise the back rest • Lower the back rest
Is the backrest in contact with your mid-back, when you are in your working position?			• Adjust the back rest angle
Chair Condition			

SELF-ASSESSMENT CHECKLIST	YES/ NO	ADJUSTMENT MADE?	POSSIBLE ADJUSTMENTS
Is your chair on castors and can it swivel freely?			• Assess suitability for repair • Consider replacement chair
Do all the levers and adjustment mechanisms function properly?			
Does the gas lift/seat stay at the height at which you set it? (i.e. gas lift does not leak)			
Is the cushioning provided by the chair adequate? (i.e. is the cushioning thick enough to prevent you from feeling the frame, when pushing your thumb into the seat)			
Are chair arms low enough to clear the desktop? (if chair is model with arms present)			Preference is for chairs without arm rests
MONITOR			
Is the monitor positioned directly in front of you, to prevent torso or neck rotation?			• Re-position/centre the monitor • Raise the monitor • Lower the monitor • Adjust monitor tilt • Arrange purchase of monitor riser • Contact IT for further assistance re monitor controls
When you are sitting up straight, in your working position, are your eyes aligned with the top 1/3rd of the monitor?			
Is the monitor position at approximately arm's length away?			
Is the monitor positioned/tilted to avoid glare from natural or artificial light sources?			
Is the screen adjusted to a comfortable level of brightness, contrast and font size?			
KEYBOARD			
Is the keyboard aligned directly in front of you, to prevent twisting?			• Re-position/centre the keyboard • Pull the keyboard closer • Tuck the keyboard legs in/ out
Is the keyboard within reach, whilst your upper arms hang freely by your side?			
Have you considered the angle of the keyboard (i.e. legs up or tucked in), to allow a flat wrist position whilst keying.			
MOUSE			
Is the mouse positioned close to the keyboard within easy reach and on the same level as the keyboard?			• Re-position the mouse • Alternate use of mouse from most dominant hand to least used hand • Adjust the mouse settings for left/right handed use • If an alternative mouse is recommended, IIT to be consulted to ensure mouse is compatible with computer equipment • Obtain a mouse pad from stationery supplier
My mouse pad is flat and in good condition			
Mouse setting can be adjusted via Start->All Programs ->Utilities->Left Hand Mouse buttons (or Right Hand Mouse buttons)			
ACCESSORIES			
Is the telephone within arm's reach, on the opposite side to your mouse?			• Relocate your telephone • Obtain a hands-free headset (dependent on phone model) • Obtain a document holder or micro-desk holder • Rearrange storage of items (most frequently used items closest)
Do you have a hands-free head set, if you are frequently on the telephone and/or need to type whilst on the phone?			
If you are required to refer to documents whilst typing, do you have a document holder placed between the keyboard and the monitor?			
If you are required to alternate between reading/writing and typing, do you have a micro-desk placed between the keyboard and the monitor?			
Are all items that you access regularly within your immediate reach zone? (i.e. do not require you to reach to full arm's length or twist to access)			

SELF-ASSESSMENT CHECKLIST	YES/ NO	ADJUSTMENT MADE?	POSSIBLE ADJUSTMENTS
DESK			
Is the desk height between 690 mm and 720 mm?			• Clear any clutter from your desk • Contact Facilities to have cables secured • Contact IT if computer cables are required to be moved
Is there sufficient desk space for non-computer based tasks? (if required)			
Is the area beneath the desk clear of obstructions, with sufficient leg room?			
Are cords and cables secured out of the way?			
THE TASK			
Do you have opportunity to vary your tasks?			• Plan tasks that need to be completed, and spread throughout the day, to enable changes in posture • Consider standing when talking on the phone • Utilise 'micro-pauses' in your tasks to adjust your posture/ roll your shoulders etc • Complete a selection of stretches every 30 minutes
Do you have opportunity to change your posture?			
Do you have opportunity to take short breaks?			
Is your work balanced between your left and right side?			
Do you complete various stretches throughout the day?			
OUTCOME			
I have been able to implement the above adjustments/work methods and am comfortable with my workstation set up and environment			
I require equipment to achieve optimum posture and work methods			
I require assistance with:			

SUMMARY OF ADJUSTMENTS MADE/REQUIRED (WORKER TO COMPLETE):

Employee Name: Employee Signature:	Date:

EQUIPMENT ORDERED (MANAGER TO COMPLETE):

Employee Name: Employee Signature:	Date:

INFORMATION

POSTURE

Avoid sustained static postures. Remember that even appropriate postures become inappropriate when maintained for too long.

Move the chair close to the desk and sit back on the seat. Adjust the chair back so that the upper body is relaxed and supported. Raise the chair seat so that, with the upper arms vertical, the elbows are level with or just above the desk.

Sitting with the chair too low and too far from the desk encourages a slouched posture with no support from the chair back. The head is tilted forward. Feet are hooked around the chair base restricting blood circulation in the legs. Shoulders may be hunched.

Shorter people often set the chair height so that their feet are firmly on the floor. If this is too low for the desk, it is likely to result in arms stretched forwards (or sideways) and/or shoulder lifting. This causes undue muscle tension.

Use a foot rest if the feet do not touch the ground. Height-adjustable chair arms provide additional support for the upper body when not keying. If the armrests restrict desk access, consider removing them altogether.

WORKSTATION

Arrange your desk layout to make best use of available space. Use your mouse (or trackball) close to the keyboard. Document management is very important. If you need to look at the keyboard when typing, the best place for the document holder is between the monitor and the keyboard. Other tools, such as the telephone, should also be readily accessible without stretching and twisting. If you write whilst using the telephone, hold the handset with your "non-writing" hand.

Make sure there is a comfortable viewing distance between your eyes and the screen and have some space between the keyboard and the front of the desk. With traditional monitors, you may need to move the desk away from the wall (or the desk behind) to create sufficient screen distance. Place the screen in front of you so that you face it without twisting your body. Ensure your legs are not obstructed by any drawers under the desk. If your PC is occupying too much desk space, move it off the desk. If you are not a touch-typist, you may also like a wrist rest for support when you are not typing.

MONITOR POSITION

If the monitor is set too low, this encourages the operator to tilt the head downwards. As a result, the whole body tends to lean forward, moving away from the support of the chair back and encouraging slouching.

Using a laptop on its own for any length of time will inevitably cause poor posture which in turn is likely to lead to head, neck and/or back pain. A separate keyboard and mouse will make a significant improvement to layout flexibility. By using one of the proprietary laptop stands to tilt the computer, it is also possible to raise the screen to an acceptable height and viewing distance.

4.5 OCCUPATIONAL HEALTH

The identification and control of workplace health hazards is as important as safety hazards. This element of the guidelines includes information about water industry specific health hazards. The effective management of all worker health risks (both physical and psychological) relies on the same “identify, assess, control, review” process that is applied to safety. This is achieved through the risk assessment processes outlined in these guidelines.

Occupational health hazards may relate to exposure to biological and infectious diseases, chemical exposure, workload, prolonged sedentary work and many other factors or activities common across the industry. A more inclusive, holistic approach to managing occupational health hazards is expected to be in place by both WorkSafe and other health and safety stakeholders. The information contained in this section of the guidelines will enable organisations to meet these expectations and ensure compliance with regulatory requirements.

NOISE AND HEARING CONVERSATION PROCEDURE

PURPOSE

To provide guidance and information to enable the control of noise exposure to prevent occupational noise induced hearing loss.

GENERAL REQUIREMENTS

Noise exposure shall be adequately controlled to ensure that people are not exposed to noise on site or arising from site operations which exceeds an exposure limit of:

- an 8 hour equivalent continuous sound pressure level of 85 dB(A)
- 82dB(A) for 12 hours;
- a peak sound pressure level of 120 dB(lin).

Refer to AS 2659 for further definition of sound pressure level measurement.

ROUTINE OPERATIONS

The Operational Manager and Health and Safety Manager (or equivalent) ensures noise exposure levels have been measured in all areas under relevant operating conditions where exposure from routine operations could foreseeably exceed:

- an 8 hour equivalent continuous sound pressure level of 85 dB(A), or 82dB(A) for 12 hours;
- a peak sound pressure level of 120 dB(lin).

Where assessment confirms that noise exposures do, or are likely to periodically exceed these limits, the organisation shall ensure;

- a documented noise control plan is prepared and implemented. This procedure provides information on potential noise control methods
- hearing protection signs conforming to standards are displayed at suitable locations to warn people entering the area that use of hearing protection is required;
- suitable hearing protection is available to, and used by all people entering the area;
- requirements for use of hearing protection, and the types of hearing protection required, are adequately specified in operating instructions and training materials.

NON-ROUTINE / AD-HOC OPERATIONS

Operational and team leaders ensure people are provided with, and use suitable hearing protection at all times while performing activities where noise exposure cannot practicably be controlled to below the above limits by other means). eg. grinding, hammering, operating noisy machinery, etc.

NEW OR MODIFIED EQUIPMENT

DESIGN STANDARD

Operational or maintenance mangers ensure the design standard of 82 dB(A) shall be applied to all new plant and equipment, including changes to existing equipment in the form of modifications, unless otherwise determined by specialist advice or by the HS Manager

Where technology does not exist, is not reasonable or practical, or is prohibitively expensive to achieve an unprotected exposure less than 82 dB(A):

- the design will facilitate application of the hierarchy of controls e.g. isolation, with the use of personal protective equipment (PPE) as a last resort;
- steps taken to achieve the lowest practicable exposure levels shall be documented and approval obtained from Operational Manager, HS Manager, or equivalent.

MEASUREMENT OF NOISE LEVELS

Following the introduction of new or modified equipment which is likely to affect noise exposure, the HS Manager, or equivalent. Mr arranges for measurement of the sound pressure levels in the area, under all relevant operating conditions The HS Manager, or equivalent. coordinates investigation and development of corrective actions to address any results above the design levels.

If foreseeable exposure levels cannot practicably be controlled to below the above limits, the HS Manager, or equivalent:

- coordinates preparation of a Noise Control Plan
- arranges for installation of hearing protection signs, as described above;
- ensures requirements to wear hearing protection, and the type of protection required are adequately specified in operating instructions and training materials.

AUDIOMETRIC MONITORING

The Organisation shall, in consultation with a suitable occupational health service provider arrange for pre-employment and periodic audiometric screening for employees and relevant contractors who are / will be required to wear hearing protection to control noise exposure.

The occupational health service provider provides details of any results which indicate noise induced hearing loss, excluding confidential medical information, to the HS Manager, or equivalent.

NOISE CONTROL OPTIONS

The feasibility of engineering controls is assessed as the preferred control option. Engineering controls may include:

- elimination to replace the equipment by a quieter operation;
- improved maintenance e.g. replace worn parts, lubrication, repair air leaks, balance rotating parts;
- relocation of noise sources to where they have the minimum impact;
- installation of noise barriers, enclosures, vibration isolation and attenuation devices, lag surfaces, fit mufflers or silencers, stiffening vibrating surfaces;
- modification of the process by reducing free fall, avoiding metal to metal impact;
- using conveyor belts rather than rollers;
- having a programme to switch off equipment which is not required;
- matching air supply pressure to air needs.

If engineering controls sufficient to reduce the noise exposure of employees to below the exposure limit are not practicable, administrative controls are considered. Administrative controls may include:

- organising work schedules to minimise the number of exposed employees;
- evening out work load and avoid busy times when machines are operating for longer hours;
- keeping employees out of noisy areas if their job does not require them to be there;
- increasing the separation between employees and the noise source;
- rotating jobs to remove employees from noise affected tasks or areas.

Where engineering and administrative controls do not reduce the noise exposure of employees to below the company standard, a program for the provision, use and maintenance of hearing protection is established. Factors which are considered when selecting PPE include:

- the comfort and user acceptance, e.g. weight, clamping force, ear cup fit, etc.;
- the required attenuation. The attenuation of the PPE must be sufficient to provide at ear sound levels of less than 82 dB(A) and preferably 80 dB(A);
- the frequency distribution of the noise source. The attenuation of the PPE is matched, as far as practicable, to the octave band frequency distribution of the noise source.

The selection technique is based on either:

- octave band attenuation;
- SLC80 attenuation;
- another accredited method.

RECORD KEEPING

Records of audiometric measurement and sound level measurements shall be retained for at least 20 years after the worker has ceased working with the organisation.

TRAINING REQUIREMENTS

The organisation shall ensure employees who are required to wear hearing protection to perform normal duties complete relevant training during induction and at periodically as required.

RECORDS OF TRAINING

The organisation shall maintain records of training and make these available during inspections and audits.

REFERENCES

WATER NEW ZEALAND PROCEDURES & GUIDELINES:

Health and Safety Procedures:

- Health and Safety Management of Change
- Job Safety Analysis
- Health and Safety in Design
- Health and Safety Training Program

LEGISLATION, REGULATION AND STANDARDS

- Health and Safety at Work Act 2015
- Health and Safety in Employment Regulations 1995
- AS 2659 Use of Sound measuring equipment
- AS 1269 Acoustics Hearing Conservation
- AS 1270 Acoustics Hearing Protectors.

BIOLOGICAL HAZARDS HEALTH AND SAFETY PROCEDURE

PURPOSE

This procedure provides guidance and information to enable the effective management of hazards associated with working where there is a risk of infectious disease or other chemical and biological hazards.

The objective of the procedure is to ensure a systematic approach ensure risks are assessed and controlled as far as reasonably practicable.

SOURCES OF BIOLOGICAL HAZARDS

Combined sewer systems include stormwater such as road runoff, which may contain residues including oils, salts, metals and asbestos. Many systems, especially older ones, are suspect to infiltration, which can carry pesticides and herbicides from soil applications.

Harmful micro-organisms originating from humans, animals or animal products are likely to be present in untreated wastewater, these include:

- Tetanus,
- Poliomyelitis,
- Hepatitis-A, hepatitis-B
- Typhoid
- Leptospirosis

Waste water screening processes may expose workers to the risk of needle-stick injuries.

Sewage sludge may contain levels of substances and biological hazards such as:

- chlorinated organic solvents
- polychlorinated biphenyls (PCBs)
- pesticides
- petroleum hydrocarbons
- flame retardants
- heavy metals
- asbestos
- dioxins
- radioactive materials.

The nature and levels of concentration of substances will vary depending on the region's industrial or agricultural practices and levels of rainfall and run-off.

In flood or earthquake situations, widespread deposits of liquefacted silt may spread over a wide area. Soil, silt or liquefied material could be contaminated with sewage and/or storm water, if underground services rupture. Any silt in affected residential areas should be considered as potentially contaminated. Silt may still remain under or around dwellings and other buildings.

EXPOSURE PATHWAYS AND VECTORS

Workers may be exposed to biological hazards or organisms by direct contact with sewage, water and sludges, or by inhalation of gases, particles, aerosols, vapours or droplets. These hazards may come into the treatment plant in soluble form or bound to suspended solids.

Workers may also be at risk of exposure to biological hazards through:

- Inadvertent ingestion and swallowing of untreated waste water or contaminated food and drink.
- Untreated waste water or contaminated material entering through cuts or unprotected skin.

RISK CONTROL MEASURES

Immunisation

Workers who may be at risk to biological hazards should receive and maintain immunisation to the diseases listed in this procedure.

Engineering Controls

Where practicable engineering controls should be developed and implemented. These many include:

- Local ventilation for processes located within the building, including splash guards for dewatering equipment where appropriate, and design or operational features to reduce air-stripping and aerosols that can cause disease.
- The use of covers on clarification process unit weir area to shield it from wind or use submerged effluent collectors, such as pipes, rather than weirs.
- Reduce pathogen content of sludge by implementing processes such as aerobic and anaerobic digestion, air drying, low temperature composting, and lime stabilization.
- The reduction of aerosols by using diffused aeration rather than mechanical aeration.
- The presence of pathogens in airborne particles may be controlled by the use of local ultra-violet light.

Personal Protective Equipment and Administrative Controls

In addition to the use of engineering controls, risks may be further controlled by the use of administrative controls, including the use of personal protective equipment. Controls may include:

- Rotating workers between the various treatment plant operations.
- Label piping so that potable and non-potable water are clearly identified.
- Heavy-duty rubber gloves and boots to prevent skin contact with wastewater and sludges.
- Puncture resistant gloves to control risks associated with needle stick injuries.
- Where the risk of exposure to aerosol borne pathogens exists respiratory protection should be worn.
- Remove contaminated clothing after job completion.
- Shower at work and change into clean clothes and shoes.
- Wash hands with soap and water before eating or smoking and whenever hands contact wastewater and sludge. Care for cuts and abrasions promptly.
- Food storage in worker facilities at sewerage collection or processing facilities must be adequate to ensure that contamination cannot occur.
- Warm water, soap and towels and hand sanitiser should be readily available for all workers.

BIOLOGICAL HAZARDS IN LABORATORIES

The development of a plan for the assessment and control of biologically hazardous materials in laboratories should conform to the provisions of AS 2243.3 1991 Safety in Laboratories: Microbiology. The plans shall include:

Identification of Hazards

The nature of the actual or potential hazard shall be identified, based upon classification of potential microorganisms according to their pathogenicity, mode of transmission, host range and availability of treatment and effective preventative measures.

Risk Assessment

The assessment shall consider the pathogenicity of the organism, the nature of the work process, potential for exposure by inhalation, skin contamination or skin penetration and the frequency of exposure.

Risk Control

Risk Control measurers shall be identified and implemented. Measures which should be considered include:

- Provision of sufficient space and lighting to minimise the potential for spills.
- Segregation of activities involving biological hazards from other laboratory activities.
- Provision of biological safety cabinets of an appropriate class where aerosols may be generated.

Administrative controls may include:

- Restriction of access to biologically hazardous areas to approved employees.
- Identification and placarding with approved biohazard warning signs.
- Regular programmed workplace disinfection or decontamination of all floors, equipment and safety cabinets.
- Containment storage and labelling of biologically hazardous material.
- Decontamination/disinfection/sterilisation of materials of equipment prior to disposal or repair.
- Disposal of biologically hazardous waste.
- Prohibition of food and drink in the laboratory.
- Performance of administration or report writing activities in nonhazardous areas only.
- Maintenance of personal hygiene.
- First aid management and medical assessment of injuries arising from biologically hazardous materials.
- Emergency procedures,
- Personal Protective Equipment:
  - Respiratory personal protective equipment shall be worn where there is a potential for aerosol generation.
  - Appropriate protective clothing shall be worn and suitable arrangement made for laundering.
  - Safety glasses shall be worn in the laboratory. A higher standard of protection e.g. goggles or face shield may be required where there is increased risk of splashes.
  - Gloves shall be worn when handling potentially hazardous material.
  - All skin lesions shall be appropriately covered.

RECORD KEEPING

Persons in control of the workplace shall maintain records of worker immunisations and make available during inspections and audits.

TRAINING REQUIREMENTS

Workers must be trained in the effective use of PPE, specifically relating to the use of respiratory protection, which may require training such as fit-tests or cartridge replacement.

REFERENCES

WATER NEW ZEALAND PROCEDURES & GUIDELINES:

Health and Safety Procedures:

- Contractor Health and Safety Management
- Job Safety Analysis
- Health and Safety Training Program
- Workplace Chemical Management

LEGISLATION, REGULATION AND STANDARDS

- Health and Safety at Work Act 2015
- Health and Safety in Employment Regulations 1995
- Health Act 1956
- AS 2243.3 - 1995 Safety in Laboratories Part 3: Microbiology
- SAA/NZS HB32 - 1995 Control Of Microbial Growth In Air Handling & Water Systems
- AS/NZS 3666.1 - Parts 1-3 Air Handling & Water Systems of Buildings

APPENDIX 1

DEFINITIONS AND ABBREVIATIONS

DEFINITIONS AND ABBREVIATIONS

ACOP

Approved Code of Practice.

ACM

Asbestos Containing Material.

CONTRACTOR

A contractor is engaged by a principal (the other party) to perform services under a contract for services (commonly called an independent contractor agreement).

ERP

Emergency Response Plan.

EWP

Elevated Work Platforms.

FAIFR

First Aid Injury Frequency Rate.

FIRST AID TREATMENT

Any one time treatment and subsequent observation of minor scratches, cuts, burns, splinters, etc. which do not ordinarily require medical care.

HAZARD

A potential to cause harm.

HAZARD IDENTIFICATION

The process used to identify all possible situations where people may be exposed to injury, illness or disease.

HAZARDOUS SUBSTANCES

Solids, liquids or gases that have the potential to harm human health.

HEALTH AND SAFETY MANAGER

A qualified and competent employee who is responsible for the preparation, execution and continuous improvement of the safety management system and processes across the organisation's activities.

HSWA

Health and Safety at Work Act 2015. New Zealand's principle health and safety legislation.

HSMS

Health and Safety Management System.

HSRs

Health and Safety Representatives.

HAZOP

Hazard and Operability Study.

INCIDENT

An event which causes or could have caused harm or, damage to plant, material, or the environment, or public.

JSA

Job Safety Analysis (JSA) is an operational risk assessment tool used to record how workplace hazards have been identified and controlled The JSA also provide record of consultation and worker engagement during its development.

LEL

Lower Explosive Level.

LTIFR

Lost Time Injury Frequency Rate.

MANUAL HANDLING

Includes a wide range of work activities such as lifting, pushing, pulling, holding, throwing and carrying as well as repetitive tasks including plant operation and computer based work.

MATERIAL SAFETY DATA SHEET (MSDS)

A document that describes the properties and uses of a substance and provides information for its identity, chemical and physical properties, health hazards, precautions for use and safe handling.

MTIFR

Medical Treatment Injury Frequency Rate.

NMFR

Near Miss Frequency Rate.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Equipment or clothing used to provide protection, e.g. gloves, safety glasses, helmet, goggles, earmuffs, safety shoes, respirators and fall arrest systems. One of the control measures listed in the Hierarchy of Control.

PLANT

Any machinery, equipment, appliance, implement or tool, including their components, fittings or accessories.

PCBU

Person Conducting Business or Undertaking.

RESPONSIBLE MANAGER:

Refers to Infrastructure Manger, Maintenance manager, operations manager or other manager with control of function or workplace.

RESPONSIBLE PERSON (RP):

The organisation's representative with overall responsibility for engaging, managing, monitoring and evaluating the work or services provided by the contractor.

RISK

The likelihood of injury, illness or disease arising from exposure to any hazard (including hazardous substances).

RISK ASSESSMENT

Process used to determine the likelihood that people may be exposed to injury, illness or disease from any situation identified during the hazard identification process.

RWIFR

Restricted Work Injury Frequency Rate.

SENIOR MANAGEMENT TEAMS:

Refers to the most senior decision making group, or executive team in the organisation.

SID

Safety in Design.

SDS

Safety Data Sheets

SOP

Standard Operating Procedure.

SFAIRP

So Far As Is Reasonably Practicable.

TRIFR

Total Recordable Injury Frequency Rate.

WORKER

In the context of HSWA, a worker is defined as a person who carries out work as:

- an employee
- a contractor or subcontractor
- an employee of a contractor or subcontractor
- an employee of a labour hire company who has been assigned to work in the business or undertaking
- an apprentice or a trainee
- a person gaining work experience or undertaking a work trial
- a volunteer worker

water
NEW ZEALAND
The New Zealand Water & Wastes Association Waiora Aotearoa