Liquid Nitrogen Handl	ing SAFE WORK METHOD	STATEMENT (SWMS)	
TASK	OR ACTIVITY: Liquid Nitrogen Ha	andling	
Business Name:		ABN:	SWMS#
Business Address:			
Contact Person:	Phone:	E jii:	
THIS SAFE WORK METHOD	STATEMENT IS APPRO		
Under the Work Health and Safety Regulation (WHS Regulation), a person conduct the proposed work starts.	cting a business or under the (PC - U is	required to en that a safe work method s	tatement (SWMS) is prepared before
Full Name:			
Signature:		Title:	Date:
Details of the person(s) responsible for ensuring implementation, monitoring a	opliance the VMS a well as review	s and modifications of the SWMS.	
Full Name:		Title:	Phone:
ALL PERSONNEL PARTICIPATING IN ANY ACTIVITY ON THIS MAN PHAVE THE FOLLOWING COMMUNICATED	NATE OF ALL RELEVANT PERSONNE EVELOPMENT AND APPROVAL OF	EL WHO HAVE BEEN CONSULTED AND CO THIS SWMS	DMMUNICATED TO IN THE
Safety meetings or toolbox talks will be sched ed in according with a gislative requirements to first identify any site hazards, such a companie hicas those hazards and then to further take steps to either eliminate or contained hazard.			
If an incident or a near miss occurs, all work must stop an added by Depending on the severity of the incident, a meeting will be called with all workers to amend the SWMS if required. The meeting may also be an educational opportunity.			
Any changes made to the SWMS after an incident or a near miss must be approved by the Person Conducting Business or Undertaking and communicated to all relevant personnel.			
The SWMS must be kept and be available for inspection at least until the work is completed. Where a SWMS is revised, all versions should be kept. If a notifiable incident occurs in relation to which the SWMS relates, then the SWMS must be kept for at least two years from the occurrence of the notifiable incident.			



CLIENT OR PRINCIPAL	CONTRACTOR DETAILS
Client:	SCOPE OF WORKS
Project Name:	
Project Address:	
Project Manager:	
Contact Phone:	
Date SWMS supplied to Project Manager:	
ANY HIGH-RISK CONSTRUC	
☐ involves a risk of a person falling more than 2 meters	I is carried out on or near pressurised gas mains or piping
□ is carried out on a telecommunication tower	carried out on or near chemical, fuel or refrigerant lines
☐ involves demolition of an element of a structure that is load-bearing	□ is carried out on or near energised electrical installations or services
□ involves demolition of an element related to the physical integ. Y of a sucture	\square is carried out in an area that may have a contaminated or flammable atmosphere
□ involves, or is likely to involve, disturbing asb	☐ involves tilt-up or precast concrete
involves structural alteration or repair that quires terminary supart to prevent collapse	☐ is carried out on, in or adjacent to a road, railway, shipping lane or other traffic corridor
□ is carried out in or near a confined space	\Box is carried out in an area of a workplace where there is any movement of powered mobile plant
is carried out in/near a shaft or trench deeper that tunnel involving use of explosives	☐ is carried out in areas with artificial extremes of temperature.
☐ is carried out in or near water or other liquid that involves a risk of drowning.	☐ involves diving work.
ANY HIGH-RISK MACHINER	RY OR EQUIPMENT NEARBY



RISK MATRIX										
LIKELIHOOD	INSIGNIFICANT	MINOR	MODERATE	MAJOR	CATASTROPHIC	SCORE			HEIRARCHY OF CONTROLS	
ALMOST CERTAIN	3 HIGH	3 HIGH	4 ACUTE	4 ACUTE	4 ACUTE	SCORE	ACTION		Elimination Remove the hazard.	
LIKELY	2 MODERATE	3 HIGH	3 HIGH	4 ACUTE	4 ACUTE	4A ACUTE	DO NOT PROCE		Substitution	
POSSIBLE	1 LOW	2 MODERATE	3 HIGH	4 ACUTE	4 ACUTE	3H HIGH	Review befor work starts.		Replace the hazard.	
UNLIKELY	1 LOW	1 LOW	2 MODERATE	3 HIGH	4 ACUTE	2M MODERATE	Ensure control measures in place.		Isolate People from the hazard	
RARE	1 LOW	1 LOW	2 MODERATE	3 HIGH	3 HIGH	1L LOW	nitor and k⊾ records		Engineering Isolate the hazard.	
DARE LOW LOW MODERATE HIGH HIGH LOW ktorecords Isolate the hazard. Idetes on Hierarchy of Controls: Elimination methods are the most effective and preferrement on the value of controlling a hazard. Engineering by isolation is the virtue ost endiver, while Administrative Controls by changing the work is the fourth most effective method. PPE (Personal Protective Equipment), the least effective Administrative Change the work. PPE PPE PPE PPE PPE PPE										

						TIVE EQUIPM					
		Select the ap	propriate PPL	abo, ruitab	i or the equi	oment used or	the job task	being perform	ned (if applica	able).	
FOOT PROTECTION	HAND PROTECTION	HEAD PROTECTION		P ECTION	R⊾ ⇒PIRATORY PROTECTION	FACE PROTECTION	HIGH-VIS CLOTHING	PROTECTIVE CLOTHING	FALL PROTECTION	SUN PROTECTION	HAIR/JEWELLERY SECURED
Other PPE Required:											
Permit or Licenses Requirements						Ма	andatory Qual	ifications and	Training		



JOB STEP	POTENTIAL HAZARDS	IR	CONTROL MEASURES	RR
SPECIFIC WORK STEPS	HAZARDS THAT MAY ARISE	INITIAL RISK	SPECIFIC MEASURES TO BE PUT IN PLACE TO ELIMINATE OR CONTROL THE RISKS	RESIDUAL RISK
1. Preparation	Poor handling, Lack of proper PPE	ЗН	 Conduct a risk assessment to identify spectomazards related to liquid nitrogen handling before starting work. Implement proper training programs for employed an safe handling, storage, and emergency procedures for liquid nitrogen. Ensure all personnel involved a handling have up a data arety certifications relevant to cryogenic materials. Always use a propriate half including insulated ploves, face shields, goggles, and lab coats to protect against splates or skin contact. Verif that all initiating and equipment used with liquid nitrogen are specifically designed for cryogenic material and are used condition. Clear thank and nuclearly inspect all storage vessels and transportation containers for any signs of damag for longe. Mainta, clear nage indicating areas where liquid nitrogen is being handled or stored to alert workers an ensiste. Stable and communicate emergency procedures clearly, including first aid measures for frostbite and phyxiation risks. Strup well-ventilated workspaces to prevent the accumulation of nitrogen gas and reduce asphyxiation nazards. Prohibit consumption of food and drink in areas where liquid nitrogen is handled to prevent ingestion incidents. Ensure spill kits and emergency response equipment are readily available and staff are trained in their use. Maintain communication systems so workers can easily call for help if necessary when working with liquid nitrogen. 	2M
2. Storage	Incorrect storage, Leakages from containers	ЗН	 Store liquid nitrogen in a well-ventilated area to prevent the buildup of nitrogen gas and minimise asphyxiation risks. Use only approved containers specifically designed for cryogenic liquids to avoid leakages or ruptures. Maintain an upright position for all storage containers to prevent spills and ensure stability. Regularly inspect containers for any signs of damage, corrosion, or wear that could lead to leaks. Ensure that all storage areas are equipped with appropriate signage indicating the presence of hazardous materials. 	1L

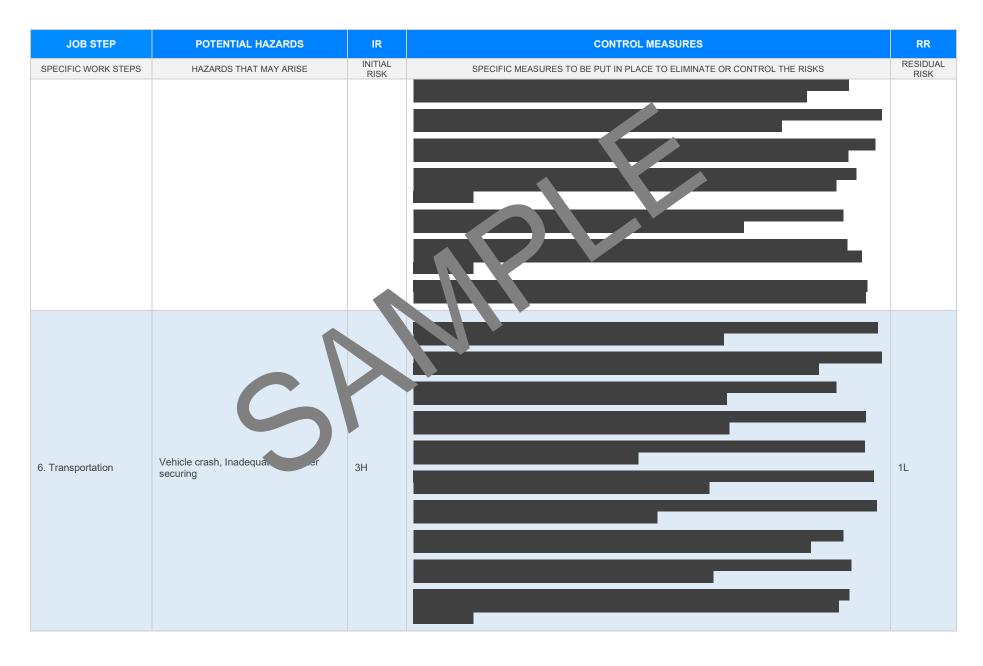


JOB STEP	POTENTIAL HAZARDS	IR	CONTROL MEASURES	RR
SPECIFIC WORK STEPS	HAZARDS THAT MAY ARISE	INITIAL RISK	SPECIFIC MEASURES TO BE PUT IN PLACE TO ELIMINATE OR CONTROL THE RISKS	RESIDUAL RISK
			- Implement a system to monitor pressure levels inside storage containers, as excessive pressure can cause leaks.	
			- Keep storage areas free of combustible material reduce the risk of fire hazards associated with improper storage.	
			- Establish clear protocols for handling leak or spills, including readily available spill kits and trained personnel.	
			- Limit access to storage areas to authorised an mained individuals to reduce the potential for mishandling.	
			- Store liquid nitrogen at a safe of tance from source opinition or incompatible substances such as oils or greases.	
			- Implement - ular training ession or staff proper storage procedures and emergency response plans.	
			- Ensuch at all or concerning the storage of cryogenic substance	
			- Ensure all personnel note completed certified training programs specific to liquid nitrogen handling.	
	7		- Vise a propria handling equipment, such as cryogenic gloves and face shields, to minimise direct contain via liquid nitrogen.	
			Perform regular maintenance and inspection of handling equipment to ensure it is in good working condition.	
			Conduct a comprehensive risk assessment before initiating any tasks involving liquid nitrogen handling.	
			- Implement a clear communication plan for all team members regarding potential hazards.	
			- Use only containers and vessels specifically designed for liquid nitrogen storage and handling.	
			- Mark and label all areas where liquid nitrogen is used or stored to inform workers of potential risks.	
3. Handling	Inadequate handling equipment, 1, , , of training	4A	- Establish and enforce dedicated pathways for the transport of liquid nitrogen within the facility.	2M
	training		- Ensure easy access to emergency equipment like safety showers and eyewash stations near handling areas.	
			- Limit the amount of liquid nitrogen that can be handled at one time to reduce the risk of spills or overexposure.	
			- Assign experienced supervisors to oversee all liquid nitrogen handling operations.	
			- Develop standard operating procedures (SOPs) for every step involved in liquid nitrogen handling and ensure they are followed strictly.	
			- Install and regularly test oxygen monitors in areas where liquid nitrogen is handled to detect potential oxygen displacement.	
			- Designate restricted zones where only authorised and trained personnel are permitted during the handling of liquid nitrogen.	

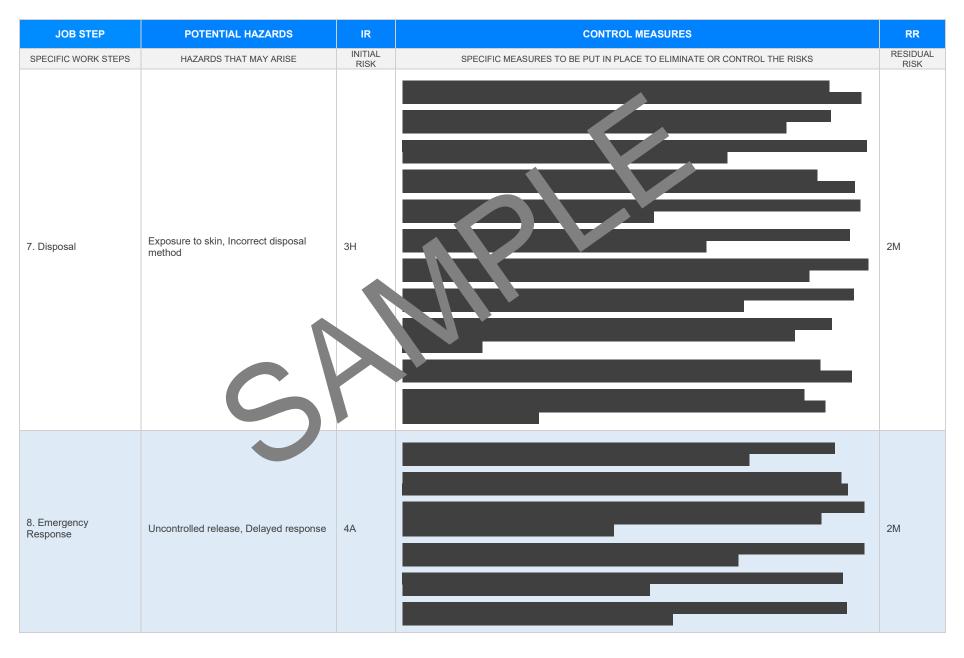


JOB STEP	POTENTIAL HAZARDS	IR	CONTROL MEASURES	RR
SPECIFIC WORK STEPS	HAZARDS THAT MAY ARISE	INITIAL RISK	SPECIFIC MEASURES TO BE PUT IN PLACE TO ELIMINATE OR CONTROL THE RISKS	RESIDUAL RISK
4. Transfer	Spill hazard, Inadequate transfer tools	2М		1L
5. Use in Experiment	Explosion risk, Inappropriate handling	4A		2M









Version 2.5

Date of Issue:





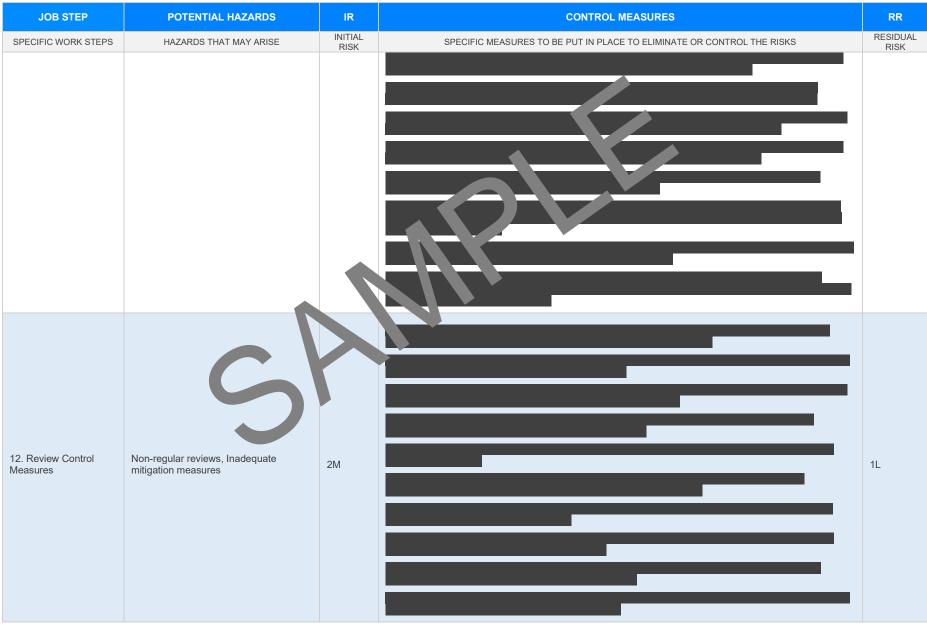
Version 2.5

Date of Issue:



JOB STEP	POTENTIAL HAZARDS	IR	CONTROL MEASURES	RR
SPECIFIC WORK STEPS	HAZARDS THAT MAY ARISE	INITIAL RISK	SPECIFIC MEASURES TO BE PUT IN PLACE TO ELIMINATE OR CONTROL THE RISKS	RESIDUAL RISK
11. Health Monitoring	Inadequate health monitoring procedures, Non-compliance	2М		1L





Date of Issue:



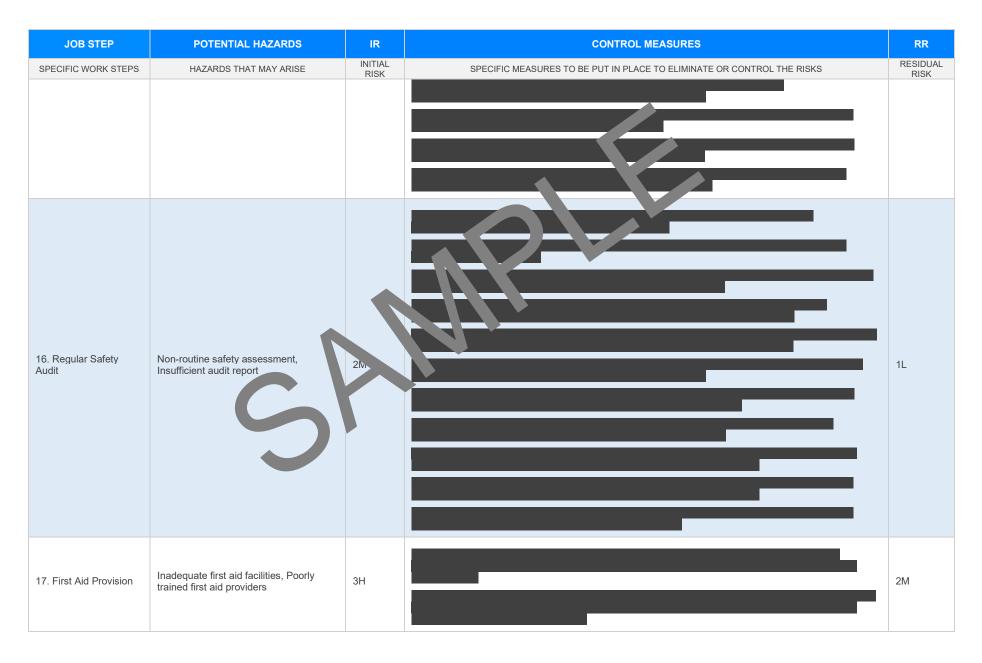
JOB STEP	POTENTIAL HAZARDS	IR	CONTROL MEASURES	RR
SPECIFIC WORK STEPS	HAZARDS THAT MAY ARISE	INITIAL RISK	SPECIFIC MEASURES TO BE PUT IN PLACE TO ELIMINATE OR CONTROL THE RISKS	RESIDUAL RISK
13. Documentation	Non-compliance paperworks, Failure to update documents	2М		1L
14. Communication	Miscommunication, Inadequate signage or instructions	2M		1L

Version 2.5

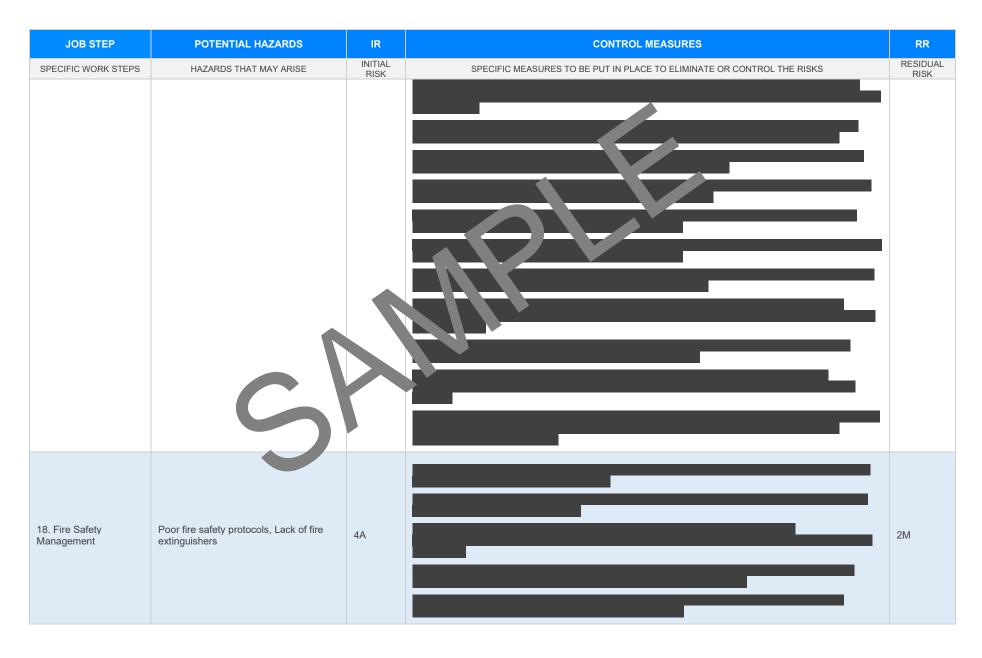














JOB STEP	POTENTIAL HAZARDS	IR	CONTROL MEASURES	RR
SPECIFIC WORK STEPS	HAZARDS THAT MAY ARISE	INITIAL RISK	SPECIFIC MEASURES TO BE PUT IN PLACE TO ELIMINATE OR CONTROL THE RISKS	RESIDUAL RISK
19. Evacuation Plan	Non-regular evacuation on a sequate evacuation routes	ЗН		I 1L



JOB STEP	POTENTIAL HAZARDS	IR	CONTROL MEASURES	RR
SPECIFIC WORK STEPS	HAZARDS THAT MAY ARISE	INITIAL RISK	SPECIFIC MEASURES TO BE PUT IN PLACE TO ELIMINATE OR CONTROL THE RISKS	RESIDUAL RISK
20. Emergency Shutdown	Uncontrolled shutdown, Insufficient backup plan	ЗН		2M



EMERGENCY RESPONSE – CALL 000 FOR EMERGENCIES

Ensure to have an Emergency Management Plan in place as well as adequate numbers of trained first aid staff with easy access to fully stocked first aid kits, rescue equipment, material safety data sheets, adequate access to emergency communication equipment and fire-fighting equipment suitable for all classes of fire and ignition sources.

LEGISLATIVE REF	ERENCES
RELEVANT LEGISLATION AND CODES OF PRACTICE. DELETE THE LEGISL	ATIVE REFERENCES DANY STATE DAT ARE NOT APPLICABLE
Queensland & Australian Capital Territory Work Health and Safety Act 2011 Work Health and Safety Regulations 2011 Legislation QLD: https://www.worksafe.qld.gov.au/laws-and-compliance/work-health-and-safety-laws Codes of Practice QLD: https://www.worksafe.qld.gov.au/laws-and-compliance/codes-of-practice Legislation ACT: https://www.worksafe.act.gov.au/laws-and-compliance/codes-of-practice Codes of Practice ACT: https://www.worksafe.act.gov.au/laws-and-compliance/codes-of-practice	Victoria Occupational Health au Safety Act 204 Occupational Health and pafety or gulations 2017 Legis non VIC: <u>https://www.worksafe.vic.gov.au/occupational-health-and-safety-act-and- rulat</u> is unles of mactice VIC <u>autps://www.worksafe.vic.gov.au/compliance-codes-and-codes-practice</u>
New South Wales Work Health and Safety Act 2011 Work Health and Safety Regulations 2017 Legislation NSW: https://www.safework.nsw.gov.au/legal-obligations/legislatic Codes of Practice NSW: https://www.safework.nsw.gov.au/legal-obligations/legislatic	Western Australia Work Health and Safety Act 2020 Work Health and Safety Regulations 2022 Legislation Western Australia: <u>https://www.commerce.wa.gov.au/worksafe/legislation</u> Codes of Practice WA: <u>https://www.commerce.wa.gov.au/worksafe/codes-practice</u>
Northern Territory Work Health and Safety (National Uniform Legislation) Act 2011 Work Health and Safety (National Uniform Legislation) Regulation 2011 Legislation NT: <u>https://worksafe.nt.gov.au/laws-and-compliance/weiplace-secure-laws</u> Codes of Practice NT: <u>https://worksafe.nt.gov.au/laws-and-compliance/weiplace-secure-laws</u>	Safe Work Australia Links Law and Regulation (All States): <u>https://www.safeworkaustralia.gov.au/law-and-regulation</u> Model Codes of Practice: <u>https://www.safeworkaustralia.gov.au/resources-publications/model- codes-of-practice</u> Model Codes of Practice
South Australia Work Health and Safety Act 2012 (SA) Work Health and Safety Regulations 2012 (SA) Legislation for SA: <u>https://www.safework.sa.gov.au/resources/legislation</u> Codes of Practice for SA: <u>https://www.safework.sa.gov.au/work_dces/codes-of-practice#COPs</u>	 Managing noise and preventing hearing loss at work Confined spaces Labelling of workplace hazardous chemicals Managing risks of hazardous chemicals in the workplace Welding processes
Tasmania Work Health and Safety Act 2012 Work Health and Safety (Transitional and Consequential Provisions) Act 2012 Work Health and Safety Regulations 2012 Work Health and Safety (Transitional) Regulations 2012 Legislation for TAS: https://worksafe.tas.gov.au/topics/laws-and-compliance/acts-and-regulations Codes of Practice for TAS: https://worksafe.tas.gov.au/topics/laws-and-compliance/codes-of-practice	 First aid in the workplace Managing the risk of falls at workplaces Hazardous manual tasks Managing the risk of falls in housing construction Managing electrical risks in the workplace Demolition work Excavation work Work health and safety consultation, cooperation and coordination
Details of permits, licenses or access required by regulatory bodies (add or delete as required): - Permits from local council - Authorisation to commence work - Any required documents.	 Managing the work environment and facilities How to manage work health and safety risks Managing risks of plant in the workplace Construction work



SIGNATORIES OF THE SAFE WORK METHOD STATEMENT

The signed and dated personnel listed below have cooperated in the consultation and development of this Safe Work Method Statement which has been approved by the Person/s Conducting a Business or Undertaking (PCBU). In signing this Safe Work Method Statement each individual acknowledges and confirms that they have read this SWMS in full, having raised any questions for items on this Safe Work Method Statement that require clarification, and confirms that they are competent, skilled and knowledgeable for the task assigned to them. Every person acknowledges that they have received the relevant training and gualifications where required, before carrying out any work contained in this Safe Work Method Statement. By signing this Safe Work Method Statement each individual agrees to work safely, to follow any safe work instructions which are provided, and agrees to use all Personal Protective Equipment where appropriate.

Worker Name	Signature	Date

SAFE WORK N THE ST ATEM ANT MONITORING AND REVIEW

d must reviewed (and

hav be sted by the operation

should be carried out in

The SWMS must be reviewed regularly to make sure it remains fective revised if necessary) if relevant control measures are revised. The viewn consultation with workers (including contractors htractors Vb of the SWMS and their health and safety representatives who represented that work group at the workplace.

When the SWMS has been revised the PCBU must ensure that persons involved with the work are advised that a revision has been made and how they can acces he revised SWMS, including all persons who will need to change a work procedure or system as a region of the review are advised of the changes in a way that will enable them to implement their duties antly with the revised SWMS. All workers that will be involved in the work must be provided with the relevant information and instruction that will assist them to understand and implement the revised SWMS.

The SWMS must be monitored regularly for the effectiveness of ensuring hazard controls are effective in reducing the risk of incidents, keeping the workplace safe for all personnel. The person responsible for monitoring the effectiveness of the Safe Work Method Statement should employ a multi-faceted approach which includes but is not limited to:

- 1. Spot Checks.
- 2. Consultation with workers, contractors and sub-contractors.
- 3. Internal audits on a continual basis.

An approach of continuous improvement, promptly recording inconsistencies or deficiencies. followed up by immediate corrective action and consultation with all relevant personnel ensures that the PCBU is consistently developing ever-improving systems of safe work principles.

REVIEW NUMBER	1	2	3	4	5	6	7
NAME							
INITIALS							
DATE							



SAFE WORK METHOD STATEMENT REVIEW CHECKLIST

This Safe Work Method Statement Review Checklist is to be followed and used upon initial development of the SWMS to help ensure that all steps have been adequately taken before work commences. Think of this document as an internal audit review checklist before commencing work, and may form part of a Toolbox Talk (safety meeting) and may be used as an opportunity for education and training.

ITEMS WHICH MUST BE INCLUDED IN THE SWMS	COMPLETED	COMMENTS
The company details have been entered, including the project name and address.		
All relevant personnel consulted during the development of the SWMS.		
Name, signature, position and date signed of the person approving the SWMS.		
Specific personnel and qualifications, experience is noted in the SWMS.		
Provides a step-by-step process of tasks required to carry out the activity or task.		
Adequate risk assessment of any identified hazards has been completed.	\boxtimes	
Foreseeable hazards are identified and documented for each step.	\boxtimes	
Any hazards listed in any site risk assessments have been added to the SWMs	\boxtimes	
SWMS initial risk (IR) column as well as residual risk (RR) column mpleted.	\boxtimes	
Check control measures added to the SWMS are the most effective selection	\boxtimes	
Responsible person is assigned and listed on the property of the importation control measures.	\boxtimes	
Permit or licenses requirements specified, su as Hot Work, Electric Work, Work at Heights etc.	\boxtimes	
SWMS identifies plant and equipment to be use	\boxtimes	
Details of inspection checks required for any equipment listed protection on the SWMS.	\boxtimes	
Describes any mandatory qualifications, experience, and g or skills required to perform the work.	\boxtimes	
Applicable personal protective equipment is selected on the SWMS.	\boxtimes	
Reflects and documents any legislative references and/or Australian Standards.	\boxtimes	
Identifies any hazardous substances used with specific control measures in line with any SDS.	\boxtimes	
REVIEWED BY	DATE REVIEWED	
SIGNATURE	DATE COMPLETED	