

Hot Work Permit Fire Watch and Hazardous Area Safety

Business Name:		ABN:
Business Address:		
Contact Person:	Phone:	Email:

THIS RISK ASSESSMENT IS APPROVED BY THE PCBU ON THIS PROJECT

Under the Work Health and Safety Regulation (WHS Regulation), a person conducting a business or undertaking (PCBU) is required to ensure that a RISK ASSESSMENT is prepared before the proposed work starts.

Full Name:		
Signature:	Title:	Date:

CLIENT OR PRINCIPAL CONTRACTOR DETAILS

Client:	SCOPE OF WORKS
Project Name:	
Project Address:	
Project Manager:	
Contact Phone:	
Date Risk Assessment supplied to Project Manager:	



RISK MATRIX									
LIKELIHOOD	INSIGNIFICANT	MINOR	MODERATE	MAJOR	CATASTROPHIC	SCORE	ACTION	HIERARCHY OF CONTROLS	
ALMOST CERTAIN	3 HIGH	3 HIGH	4 ACUTE	4 ACUTE	4 ACUTE			Elimination Remove the hazard.	
LIKELY	2 MODERATE	3 HIGH	3 HIGH	4 ACUTE	4 ACUTE	4A ACUTE	DO NOT PROCEED	Substitution Replace the hazard.	
POSSIBLE	1 LOW	2 MODERATE	3 HIGH	4 ACUTE	4 ACUTE	3H HIGH	Review before work starts.	Isolation Isolate People from the hazard	
UNLIKELY	1 LOW	1 LOW	2 MODERATE	3 HIGH	4 ACUTE	2M MODERATE	Ensure control measures in place.	Engineering Isolate the hazard	
RARE	1 LOW	1 LOW	2 MODERATE	3 HIGH	3 HIGH	1L LOW	Monitor and keep records.	Administrative Change	
								PPE	

Risk Rating & Required Action:	
4A	Stop work. The risk is intolerable. Eliminate the hazard or redesign the activity before proceeding. A Safe Work Method Statement (SWMS) or higher-level authorisation is required.
3H	Review and approve additional controls before task starts. Senior supervisor sign-off needed.
2M	Ensure all nominated controls are in place and effective. Proceed with caution; monitor conditions.
1L	Proceed, following standard operating procedures. Monitor and keep records.

Consequence Scale:			
Consequence	People (injury/illness)	Project / Assets	Compliance / Reputation
Catastrophic	Fatality or permanent total disability	project shutdown	Significant regulator intervention; criminal prosecution
Major	Serious injury/illness (hospital > 5 days)	critical delay	Improvement notice; major media coverage
Moderate	Medical-treatment injury; lost-time > 1 day	moderate delay	Minor breach; adverse client comment
Minor	First-aid only, no lost time	negligible delay	Isolated non-conformance
Insignificant	No injury	no schedule impact	Deviation caught and corrected on site

Notes on Hierarchy of Controls:
Remember to apply controls in the preferred order shown by the coloured pyramid:

1. **Eliminate**
2. **Substitute**
3. **Isolate**
4. **Engineering**
5. **Administrative**
6. **PPE**

Always document **why** a lower-order control is accepted if elimination or substitution is not reasonably practicable.

aligned with Safe Work Australia's Managing the risk of fatigue at work (2023) and ISO 45001:2018 clauses 6–8.

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. Hot Work Governance, Policies and WHS Act Compliance	<ul style="list-style-type: none"> Absence of a formal hot work policy aligned with WHS Act 2011 and WHS Regulations Inadequate integration of hot work requirements into the PCBU's overall WHS management system Lack of clear allocation of duties between PCBU, officers, supervisors, contractors and workers Failure to identify hot work as a high-risk activity in the risk register and due diligence processes Inadequate consultation with workers and HSRs regarding hot work procedures and permit systems Non-compliance with relevant Australian Standards (e.g. AS 1674.1, AS/NZS 60079 series for hazardous areas) No formal process to review and update hot work governance following incidents or legislative changes 	4A	<ul style="list-style-type: none"> Develop and implement a corporate hot work policy approved by officers that explicitly references WHS Act 2011 primary duty of care and relevant WHS Regulations Embed hot work as a specific high-risk activity within the organisation's WHS management system and risk register, including clear escalation requirements Define and document roles, responsibilities and authorities for hot work (e.g. permit issuer, fire watch, supervisor, workers, contractors) in WHS procedures Align internal procedures with relevant Australian Standards for hot work and hazardous areas (e.g. AS 1674.1 Welding and allied processes; AS/NZS 60079 for explosive atmospheres) Establish a formal consultation process with workers and HSRs when developing, reviewing and implementing hot work and hazardous area procedures Implement a scheduled review cycle (e.g. annually or after any incident) for hot work governance documents, incorporating lessons learnt and audit findings Ensure officers discharge due diligence obligations by receiving periodic governance reports on hot work compliance, incidents and improvement actions 	3H
2. Hot Work Permit System and Authorisation Controls	<ul style="list-style-type: none"> No formal hot work permit system, or system not consistently applied across the site Permits issued by untrained or unauthorised personnel Permits not adequately defining scope, location, duration and conditions for hot work Failure to identify and document controls for fire watch, cool-down periods and post-work inspections Inadequate verification of isolation, gas testing and hazardous area controls before permit issue Permits not integrated with other permit systems (confined space, working at height, electrical isolation) 	4A	<ul style="list-style-type: none"> Implement a formal hot work permit procedure requiring written authorisation before any work generating heat, sparks or open flame is undertaken Define competency and authorisation criteria for permit issuers, including documented training and appointment by management Standardise permit templates to require clear description of work scope, plant or area, time limits, fire watch arrangements and required isolations Integrate hot work permits with other permit to work processes (e.g. confined space, hazardous area, energy isolation/LOTO) to prevent conflicting work Require documented verification checks (sign-off and, where appropriate, photographs or digital checklist) confirming pre-work controls are in place prior to permit issue Mandate defined maximum permit durations with revalidation required for shift changes, new hazards or changed conditions (weather, adjacent work, product changes) Include mandatory permit close-out steps confirming fire watch completion, cool-down inspections and status of isolations before re-energising plant or returning to service Use an electronic permit management system to track permits, authorisations, expiry and historical records for audit 	2M

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	<ul style="list-style-type: none"> Permit close-out not performed, leading to uncontrolled reintroduction of hazards 			
3. Hazard Identification and Pre-Work Risk Assessment for Hot Work	<ul style="list-style-type: none"> Inadequate pre-work risk assessment failing to identify flammable liquids, vapours, gases, combustible dusts and oil contamination Failure to recognise areas classified as hazardous (Zones 0, 1, 2) or where hazardous atmospheres may be generated Poor assessment of adjacent or underlying materials that can ignite or smoulder (e.g. insulation, coatings, timber, rubber, plastics) Failure to recognise heat conduction through structures causing fire remote from welding point Lack of systematic assessment for cutting containment and control of sparks and hot slag Inadequate evaluation of environmental conditions (e.g. poor ventilation, confined or semi-confined areas) affecting fume and flame spread Overreliance on generic permits without site-specific risk assessment for the particular hot work location 	4A	<ul style="list-style-type: none"> Mandate a documented, site-specific risk assessment for hot work, with checklists to identify flammable/combustible materials, coatings, dusts and contamination Incorporate hazardous area classification drawings, process diagrams and MSDS/SDS into pre-work risk assessment to identify potential explosive atmospheres Require evaluation of adjacent spaces, wall cavities, pipe chases, cable trays and underlying structural components for potential heat transfer and smouldering Include assessment of spark trajectory, molten metal fall path and cutting debris, with requirements for physical containment (e.g. welding screens, fire blankets, spark containment trays) Require review of local ventilation and environmental factors, including wind direction, to prevent spread of fumes, sparks and fumes into hazardous or occupied areas Implement a formal review step where the permit issuer or supervisor validates the completeness and quality of the risk assessment prior to authorisation Maintain a library of previous hot work risk assessments and lessons learnt to inform future assessments, particularly for complex plant such as storage tanks and confined spaces 	2M
4. Management of Hot Work in Hazardous Areas and Classified Locations	<ul style="list-style-type: none"> Hot work performed in hazardous areas without proper classification or controls Ignition of flammable vapours, gases or combustible dust in Zone 0, Zone 1 or Zone 2 locations Use of non-intrinsically safe equipment or unapproved welding/cutting equipment in hazardous areas Failure to coordinate hot work with process isolations, purging and gas freeing in hazardous installations 	4A	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	2M

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	<ul style="list-style-type: none"> Inadequate control of other simultaneous operations that introduce flammable atmospheres near hot work Lack of management oversight for hot work in hazardous areas, leading to acceptance of unsafe deviations 		[REDACTED]	
5. Fire Watch Management and Fire Prevention During Hot Work	<ul style="list-style-type: none"> No designated fire watch for high-risk hot work activities Fire watch personnel lacking competency in hazard recognition and emergency response Fire watch not maintained during cool-down period or after work breaks and shift changes Insufficient fire prevention planning in the work area (e.g. lack of fire blankets, inadequate screening, poor housekeeping) Fire watch unable to maintain continuous visual access to all potential ignition points and spark paths No formal system where fire watch has authority to stop work when conditions become unsafe 	4A	[REDACTED]	2M
6. Control of Flammable and Combustible Materials Including Storage Tanks	<ul style="list-style-type: none"> Hot work conducted on or near flammable liquid storage tanks without full isolation, cleaning and gas freeing Ignition of flammable vapours from residues in tanks, pipes, bunds and sumps Hot work on or near flammable materials such as paints, solvents, coatings, plastics and timber without adequate segregation Inadequate removal or protection of combustible materials in the hot work radius, including behind walls or linings 	4A	[REDACTED]	2M

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	<ul style="list-style-type: none"> Welding on oil-contaminated materials leading to ignition or violent reaction Failure to control introduction of flammable liquids and gases into the area during hot work (e.g. by delivery, transfer or leaks) 		[REDACTED]	
7. Containment of Sparks, Slag and Cutting Debris	<ul style="list-style-type: none"> Uncontrolled spread of sparks and hot slag to combustible materials or hidden voids Failure to design and implement adequate cutting containment for elevated or overhead work Ignition of combustible dusts or residues from falling hot particles Inadequate engineering controls for containing cutting debris in confined or complex plant areas Insufficient inspection of low levels, cavities and adjacent areas for hot particles following hot work 	3H	[REDACTED]	2M
8. Management of Open Flames and Hot Work Equipment	<ul style="list-style-type: none"> Uncontrolled use of open flames (e.g. gas torches) in areas containing or potentially containing flammable atmospheres Defective or poorly maintained hot work equipment leading to fuel leaks, flashbacks or uncontrolled heating Improvised equipment or non-standard configurations that bypass built-in safety features Inadequate segregation between open flames and nearby combustible or explosive materials 	3H	[REDACTED]	2M

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	<ul style="list-style-type: none"> Lack of clear protocol for the storage, transport and handling of gas cylinders and flammable fuel sources 		[REDACTED]	
9. Hot Work in Confined Spaces and Restricted Areas	<ul style="list-style-type: none"> Hot work conducted in confined spaces without full compliance with confined space entry requirements Build-up of toxic fumes, reduced oxygen or explosive gases from welding and cutting processes Difficulties in performing fire watch and post-work inspections in confined or restricted areas Inadequate ventilation systems leading to accumulation of heat and hazardous fumes Poor coordination between confined space permit and hot work permit conditions 	4A	[REDACTED]	2M
10. Worker Competency, Training and Authorisation for Hot Work and Fire Watch	<ul style="list-style-type: none"> Workers, supervisors and fire watch personnel conducting hot work without adequate training or competency assessment Lack of understanding of hazardous area classifications, flammable materials and explosive atmospheres Inadequate awareness of specific risks such as hot work on flammable liquid storage tanks, oil-contaminated materials and confined spaces No formal authorisation process for workers to perform hot work or act as permit issuers or fire watch Training limited to generic inductions, with no verification of knowledge retention or practical capability 	3H	[REDACTED]	2M

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11. Engineering Controls for Ventilation, Isolation and Heat Management	<ul style="list-style-type: none"> • Reliance on administrative controls in the absence of adequate engineering solutions for heat, fumes and explosive atmospheres • Inadequate plant isolation (mechanical, electrical, process) before undertaking hot work • Poorly designed or ineffective local exhaust ventilation leading to fume exposure and fire risk • Failure to implement engineered cool-down or heat dissipation measures on hot surfaces and components • Reintroduction of process materials or energy before hot surfaces and adjacent materials have cooled to a safe level 	3H	[REDACTED]	1L
12. Health Risks from Heat, Fumes and Skin Contact with Hot Surfaces or Fluids	<ul style="list-style-type: none"> • Skin injury from exposure to hot surfaces, molten metal, slag or hot fluids during and after hot work • Exposure to welding fumes, gases and particulates causing acute and chronic health effects • Heat stress or heat exhaustion when working in high-temperature environments or confined spaces • Lack of systems to identify and control hazardous fumes from specific materials (e.g. coatings, oil-contaminated materials, galvanised steel) • Inadequate health surveillance and monitoring for workers frequently performing hot work 	3H	[REDACTED]	2M
13. Emergency Preparedness, Fire Response and Incident Management	<ul style="list-style-type: none"> • Inadequate emergency response planning for fires or explosions triggered by hot work 	3H	[REDACTED]	2M

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	<ul style="list-style-type: none"> Insufficient firefighting equipment capacity, location or maintenance to respond to hot work incidents Workers and fire watch personnel unfamiliar with emergency procedures, alarms and communication systems Delayed response to smouldering fires following completion of hot work due to lack of monitoring Failure to investigate and learn from hot work-related incidents and near misses 		[REDACTED]	
14. Contractor and Third-Party Management for Hot Work	<ul style="list-style-type: none"> Contractors performing hot work without alignment to site hot work permit procedures and standards Inadequate verification of contractor competency, licensing and experience with hot work in hazardous areas Conflicting work methods between contractor SWMS and site risk controls leading to gaps in fire prevention and hazardous area management Poor communication and coordination between contractor and site personnel during hot work and fire watch activities Lack of oversight of sub-contractors engaged by principal contractor for specialist hot work 	3H	[REDACTED]	2M
15. Monitoring, Audit and Continuous Improvement of Hot Work Controls	<ul style="list-style-type: none"> Lack of ongoing monitoring to ensure hot work procedures and permit systems are effectively implemented Complacency over time, leading to erosion of controls and normalisation of deviation from hot work rules Failure to detect emerging risks relating to new processes, materials or plant modifications affecting hot work 	3H	[REDACTED]	1L

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	<ul style="list-style-type: none"> Inadequate data collection on hot work permits, incidents, near misses and non-conformances 		<div style="background-color: black; height: 15px; width: 100%;"></div> <div style="background-color: black; height: 15px; width: 100%;"></div> <div style="background-color: black; height: 15px; width: 100%;"></div>	

SAMPLE

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 REFERENCES

RELEVANT LEGISLATION AND CODES OF PRACTICE. DELETE THE LEGISLATIVE REFERENCES FOR ANY STATE THAT 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/acts-and-regulations>
 Codes of Practice ACT: <https://www.worksafe.act.gov.au/laws-and-compliance/codes-of-practice>

Victoria

Occupational Health and Safety Act 2004
 Occupational Health and Safety Regulations 2017
 Legislation VIC: <https://www.worksafe.vic.gov.au/occupational-health-and-safety-act-and-regulations>
 Codes of Practice VIC: <https://www.worksafe.vic.gov.au/compliance-codes-and-codes-practice>

New South Wales

Work Health and Safety Act 2011
 Work Health and Safety Regulations 2025
 Legislation NSW: <https://www.safework.nsw.gov.au/legal-obligations/legislation>
 Codes of Practice NSW: <https://www.safework.nsw.gov.au/resource-library/list-codes-of-practice>

Western Australia

Work Health and Safety Act 2020
 Work Health and Safety Regulations 2022
 Legislation Western Australia: <https://www.commerce.wa.gov.au/worksafe/legislation>
 Codes of Practice WA: <https://www.commerce.wa.gov.au/worksafe/codes-practice>

Northern Territory

Work Health and Safety (National Uniform Legislation) Act 2011
 Work Health and Safety (National Uniform Legislation) Regulation 2011
 Legislation NT: <https://worksafe.nt.gov.au/laws-and-compliance/workplace-safety-laws>
 Codes of Practice NT: <https://worksafe.nt.gov.au/laws-and-compliance/codes-of-practice>

Safe Work Australia Links

Law and Regulation (All States): <https://www.safeworkaustralia.gov.au/law-and-regulation>
 Model Codes of Practice: <https://www.safeworkaustralia.gov.au/resources-publications/model-codes-of-practice>

South Australia

Work Health and Safety Act 2012 (SA)
 Work Health and Safety Regulations 2012 (SA)
 Legislation for SA: <https://www.safework.sa.gov.au/resources/legislation>
 Codes of Practice for SA: <https://www.safework.sa.gov.au/workplaces/codes-of-practice#COPs>

Model Codes of Practice

- 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
- 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
- Managing the work environment and facilities
- How to manage work health and safety risks
- Managing risks of plant in the workplace
- Construction work

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>

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.