

Gas Welding and Cutting Risk Assessment

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:

- Eliminate**
- Substitute
- Isolate
- Engineering
- Administrative
- 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. Preparation	Lack of training, Inadequate PPE	3H	<ul style="list-style-type: none"> - Provide comprehensive training on equipment use and safety procedures. - Ensure availability and wearing of appropriate Personal Protective Equipment (PPE) such as gloves and goggles. - Conduct a safety briefing before work commences. - Ensure all safety signage is in place. - Verify worker competence before starting. - Develop an emergency response plan. - Confirm understanding of risk assessment findings. - Provide clear instruction and supervision throughout the task. - Maintain regular checks for PPE compliance. - Inspect equipment for wear and damage before use. 	2M
2. Workspace Setup	Cluttered work area, Poor ventilation	3H	<ul style="list-style-type: none"> - Clear the work area of unnecessary materials and obstructions. - Ensure ventilation systems are operational and effective. - Place fire extinguishing equipment nearby and accessible. - Design space for specific tasks to avoid congestion. - Organise tools and materials for easy access. - Test exhaust systems prior to start work. - Set up barriers to define working zone. - Monitor atmospheric conditions regularly. - Ensure exhausts are correctly directed away from work areas. - Keep flammable substances properly stored away from the work zone. 	2M
3. Equipment Inspection	Faulty equipment, Improper gas connections	4A	<ul style="list-style-type: none"> - Perform pre-use checks on all equipment, ensuring hoses and valves are leak-free. - Use only certified and well-maintained tools and equipment. - Calibrate gauges and verify function. - Check all gas connections for integrity and tightness. - Replace any damaged or worn components immediately. - Maintain regular logs for equipment maintenance. - Ensure all safety devices are properly installed and functional. - Conduct operational checks for each tool. 	2M

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			<ul style="list-style-type: none"> - Verify compatibility of different tools and fittings. - Ensure compliance with Australian safety standards. 	
4. Gas Cylinder Handling	Gas leaks, Cylinder falls	4A	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	2M
5. Torch Lighting	Flashback, Burns	4A	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	2M
6. Material Preparation	Sharp edges, Metal splinters	3H	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	2M

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7. Cutting Operation	Fumes, Heat exposure	4A		2M
8. Weld Operation	Sparks, Ultraviolet radiation	4A		2M
9. Post-Work Inspection	Residual heat, Material instability	3H		1L

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10. Immediate Area Clearance	Trip hazards, Falling materials	3H		1L
11. Worker Debrief	Miscommunication, Fatigue-related errors	3H		1L

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12. Tool Maintenance	Improper storage, Wear and tear	3H	<ul style="list-style-type: none"> Store tools in designated storage area, away from walkways. Inspect tools for damage before use. Use tools only for their intended purpose. Report damaged tools to supervisor. Use proper technique when using tools. Wear appropriate PPE when using tools. Keep work area clean and free of clutter. Use proper lifting techniques when moving tools. Do not use tools if you are unsure of how to use them. Get proper training on how to use tools. 	1L
13. Safety Review	Unaddressed risk, Inadequate training	3H	<ul style="list-style-type: none"> Conduct a safety review of the task. Identify potential hazards and risks. Develop a safety plan to address the risks. Provide training to workers on the safety plan. Monitor workers for compliance with the safety plan. Correct any unsafe behavior or conditions. Update the safety plan as needed. Conduct a follow-up safety review. Provide ongoing training to workers. Encourage workers to report safety concerns. 	1L
14. Training Updates	Outdated information, Insufficient skills	3H	<ul style="list-style-type: none"> Review training materials for accuracy. Update training materials as needed. Provide training to workers on the updated materials. Assess worker skills to ensure they are sufficient. Provide additional training if skills are insufficient. Monitor worker performance to ensure they are following the training. Correct any errors or deficiencies. Provide ongoing training to workers. Encourage workers to ask questions if they are unsure. 	1L

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15. Stakeholder Engagement	Internal conflict, Lack of clarity	2M		1L
16. Emergency Procedures	Delayed response, Panic	4A		2M

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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 IF 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 2017

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) Regulations 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>

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

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>

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.