

**Metal Cutting By Gas Or Plasma 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:	

SAMPLE

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			<b>Elimination</b> Remove the hazard.	
LIKELY	2 MODERATE	3 HIGH	3 HIGH	4 ACUTE	4 ACUTE	4A ACUTE	DO NOT PROCEED	<b>Substitution</b> 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.	<b>Engineering</b> 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:	
<b>4A</b>	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.
<b>3H</b>	Review and approve additional controls before task starts. Senior supervisor sign-off needed.
<b>2M</b>	Ensure all nominated controls are in place and effective. Proceed with caution; monitor conditions.
<b>1L</b>	Proceed, following standard operating procedures. Monitor and keep records.

  

Consequence Scale:			
Consequence	People (injury/illness)	Project / Assets	Compliance / Reputation
<b>Catastrophic</b>	Fatality or permanent total disability	project shutdown	Significant regulator intervention; criminal prosecution
<b>Major</b>	Serious injury/illness (hospital > 5 days)	critical delay	Improvement notice; major media coverage
<b>Moderate</b>	Medical-treatment injury; lost-time > 1 day	moderate delay	Minor breach; adverse client comment
<b>Minor</b>	First-aid only, no lost time	negligible delay	Isolated non-conformance
<b>Insignificant</b>	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. Preparation	Incorrect equipment setup, Faulty gas supply	3H	<ul style="list-style-type: none"> <li>- Inspect all equipment before use.</li> <li>- Ensure correct gas supply connection.</li> <li>- Verify gas cylinders are within test date.</li> <li>- Confirm torch settings are correct.</li> <li>- Use a checklist to verify setup.</li> <li>- Arrange suitable ventilation.</li> <li>- Conduct a visual inspection for defects.</li> <li>- Ensure emergency stop mechanism is operational.</li> <li>- Pre-inspect all hoses for wear or damage.</li> <li>- Test gas flow before starting operation.</li> </ul>	2M
2. Workspace Setup	Cluttered work area, Inappropriate lighting	3M	<ul style="list-style-type: none"> <li>- Clear work area of all obstructions.</li> <li>- Ensure adequate lighting is provided.</li> <li>- Secure floor surfaces to be non-slip.</li> <li>- Mark out work zones clearly.</li> <li>- Remove all flammable materials within work zone.</li> <li>- Use signage to inform others of operation in progress.</li> <li>- Set up barriers to restrict access.</li> <li>- Verify proper grounding of equipment to prevent static.</li> <li>- Store all tools and consumables systematically.</li> <li>- Ensure proper ventilation of the workspace.</li> </ul>	2M
3. PPE Utilisation	Lack of appropriate PPE, Incorrect PPE usage	3H	<ul style="list-style-type: none"> <li>- Conduct PPE if required training session.</li> <li>- Ensure all workers wear flame-resistant clothing.</li> <li>- Ensure all workers wear protective gloves.</li> <li>- Use safety glasses and face shields.</li> <li>- Enforce wearing of steel-toed boots.</li> <li>- Provide ear protection to minimise noise exposure.</li> <li>- Enforce the use of respiratory protection.</li> <li>- Ensure all PPE meets Australian standards.</li> </ul>	1L



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			[Redacted]	
7. Equipment Shut-Down	Residual energy, Improper shutdown procedures	3H	[Redacted]	1L
8. Maintenance	Unexpected start, [Redacted] materials	3H	[Redacted]	2M
9. Consumable Replacement	Improper handling, Contamination	3H	[Redacted]	1L

SAMPLE

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			[REDACTED]	
10. Waste Disposal	Environmental damage, Improper storage of scrap	3H	[REDACTED]	1L
11. Safety Checks	Failure to identify hazards, Non-compliance with safety protocols	3H	[REDACTED]	1L
12. Emergency Response	Delayed response to emergencies, Inadequate emergency equipment	4A	[REDACTED]	2M

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			[REDACTED]	
13. Operator Training	Inadequate skills, Misunderstanding of procedures	3H	[REDACTED]	1L
14. Record Keeping	Inaccurate documentation, Loss of records	3H	[REDACTED]	1L
15. Continuous Improvement	Repetition of past mistakes, Resistance to change	3H	[REDACTED]	2M

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			[REDACTED]	
16. Tool Checks	Tool malfunction, Improper tool use	3H	[REDACTED]	1L
17. Gas Cylinder Management	Cylinder leaks, Improper cylinder transport	3H	[REDACTED]	1L
18. Spare Parts Management	Incorrect spare parts use, Spare part shortages	3H	[REDACTED]	1L

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			[REDACTED]	
19. Cleaning and Housekeeping	Slips, trips, and falls, Dust buildup	3H	[REDACTED]	1L
20. Monitoring and Review	Missed improvement opportunities, Complacency in safety practices	3H	[REDACTED]	2M

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 2017  
 Legislation NSW: <https://www.safework.nsw.gov.au/legal-obligations/legislation>  
 Codes of Practice NSW: <https://www.safework.nsw.gov.au/resource-library/lis>

**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/work-places-and-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/work-places/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.

