

Installing Or Altering Gas Systems 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:								Notes on Hierarchy of Controls:	
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.								Remember to apply controls in the preferred order shown by the coloured pyramid:	
3H Review and approve additional controls before task starts. Senior supervisor sign-off needed.								1. Eliminate	
2M Ensure all nominated controls are in place and effective. Proceed with caution; monitor conditions.								2. Substitute	
1L Proceed, following standard operating procedures. Monitor and keep records.								3. Isolate	
								4. Engineering	
								5. Administrative	
								6. PPE	
Consequence Scale:								Always document why a lower-order control is accepted if elimination or substitution is not reasonably practicable.	
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				
								<i>aligned with Safe Work Australia's Managing the risk of fatigue at work (2023) and ISO 45001:2018 clauses 6–8.</i>	

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	Inadequate training, Incorrect tools or equipment	3H	<ul style="list-style-type: none"> - Train workers in safe working procedures and handling of tools - Ensure all tools and equipment are tested and in good working order - Conduct safety induction for new personnel - Regularly review training materials and update as necessary - Equip workers with necessary PPE such as gloves and eye protection - Confirm workers understand project specifications and safety responsibilities - Ensure adequate supervision is available during work - Implement permit-to-work system for gas installations - Establish a communication plan for emergencies - Restrict unauthorized personnel from the work area 	2M
2. Site Assessment	Unstable structures, Environmental hazards	3H	<ul style="list-style-type: none"> - Conduct a thorough site inspection prior to commencing work - Identify and mark unstable areas or structures - Assess environmental conditions, such as wind or rain, that may impact safety - Implement a site-specific risk management plan - Ensure compliance with local council regulations - Use barriers to restrict access to hazardous areas - Maintain clear and unobstructed emergency access - Document and communicate identified hazards to all personnel - Use temporary stabilization if required - Ensure proper lighting is available at the worksite 	2M
3. System Decommissioning	Gas leaks, Fire or explosion	4A	<ul style="list-style-type: none"> - Purge all systems of gas before commencing decommissioning - Isolate gas supply using valves and lock-out/tag-out systems - Perform regular leak testing using gas detectors and monitoring equipment - Secure and seal unused gas lines to prevent leaks - Ensure all personnel are aware of evacuation procedures in case of gas leak - Use intrinsically safe tools and equipment - Establish a fire safety plan and ensure extinguishers are available on site - Monitor gas concentrations regularly and stop work if unsafe levels are detected 	2M

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			<ul style="list-style-type: none"> - Maintain communication with local emergency services - Train workers in emergency response and evacuation 	
4. Installation of New Systems	Incorrect installation, Structural damage	3H	<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. Inspection and Testing	Defective systems, incorrect pressure levels	3H	<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. Commissioning	Excessive pressure, Operational failures	3H	<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

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7. Final Review and Documentation	Incomplete records, Compliance issues	2M		1L
8. Maintenance Planning	Neglected maintenance, Unforeseen breakdowns	3H		2M
9. Training and Competency Assessment	Skill gaps, Improper handling	3H		1L

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			<div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div>	
10. Emergency Response Preparation	Delayed response, Improper procedures	3H	<div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div>	1L
11. Hazardous Material Handling	Chemical exposure, Fume inhalation	3H	<div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div>	1L

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12. Waste Management	Improper disposal, Environmental contamination	3H	<ul style="list-style-type: none"> 1. Segregate waste by type and hazard. 2. Use appropriate containers for storage. 3. Label all waste containers clearly. 4. Follow local, state, and federal disposal regulations. 5. Use licensed waste disposal services. 6. Minimize waste generation. 7. Recycle where possible. 8. Provide training on waste management. 9. Conduct regular audits. 10. Maintain accurate records. 11. Use spill containment measures. 12. Implement a waste management plan. 13. Consult with environmental professionals. 14. Use secondary containment for transfers. 15. Avoid mixing incompatible wastes. 16. Store waste in secure, weather-resistant containers. 17. Transport waste in accordance with regulations. 18. Dispose of waste at approved facilities. 19. Monitor disposal sites. 20. Report any leaks or spills immediately. 	1L
13. Personal Protective Equipment (PPE)	Inadequate protection, Incorrect usage	3H	<ul style="list-style-type: none"> 1. Conduct a hazard assessment to determine required PPE. 2. Provide training on proper PPE usage. 3. Ensure PPE is in good condition and replace as needed. 4. Enforce the use of PPE at all times in the hazard area. 5. Use PPE that meets or exceeds relevant standards. 6. Perform fit tests for respiratory protection. 7. Use fall protection when working at heights. 8. Wear eye protection when working with hazardous materials. 9. Use hearing protection in high-noise areas. 10. Use appropriate skin protection. 11. Conduct regular PPE inspections. 12. Establish a PPE program. 13. Document PPE usage and training. 14. Encourage a safety culture. 15. Provide PPE for all workers. 16. Use PPE during maintenance and repair work. 17. Use PPE during material handling. 18. Use PPE during cleaning and maintenance. 19. Use PPE during emergency response. 20. Use PPE during all other work activities. 	1L
14. Communication and Collaboration	Miscommunication, Uncoordinated operations	3H	<ul style="list-style-type: none"> 1. Establish clear communication protocols. 2. Use standardized terminology. 3. Conduct regular team meetings. 4. Implement a communication system (e.g., radio, intercom). 5. Assign specific roles and responsibilities. 6. Use checklists for critical tasks. 7. Encourage open communication. 8. Conduct regular safety briefings. 9. Use visual aids (e.g., diagrams, signs). 10. Establish a chain of command. 11. Document communication. 12. Provide training on communication. 13. Encourage workers to speak up if they see a problem. 14. Use clear, concise language. 15. Repeat important information. 16. Confirm understanding. 17. Use hand signals when necessary. 18. Establish a common understanding of the task. 19. Use a common set of tools and equipment. 20. Establish a common set of safety rules. 	1L

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15. Post-Installation Review	Missed defects, Overlooked compliance	2M		1L

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.