

Disconnection Of Gas Lines

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

	SCOPE OF WORKS
Client:	
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. Governance, Legal Compliance and Consultation	<ul style="list-style-type: none"> Lack of clear WHS governance for gas work leading to non-compliance with WHS Act 2011 and associated regulations, codes of practice and Australian Standards Failure to ensure disconnection of gas lines is carried out or directly supervised by a competent and, where required, licensed gasfitter Inadequate worker consultation, representation and participation in decisions about gas isolation and disconnection processes Poor integration of gas safety requirements into the organisation's WHS management system and risk register No formal process to review incidents, near misses or regulatory changes relating to gas systems 	High	<ul style="list-style-type: none"> Establish and maintain a WHS management system that explicitly addresses gas systems, including disconnection of gas lines, in line with WHS Act 2011 and WHS Regulations Assign clear PCBU-level accountability and delegated responsibilities for gas safety, including documented roles for officers, managers, supervisors and workers Ensure gas disconnection work is planned, authorised and, where required by law, undertaken by a licensed gasfitter with competency verified and recorded Integrate relevant Australian Standards (e.g. AS/NZS 5500 series), gas network operator requirements and approved codes of practice into company policies and procedures Implement a formal consultation framework with Health and Safety Representatives (HSRs) and workers for all significant changes to gas systems, isolation procedures or equipment Maintain a central, controlled WHS risk register that includes system-level risks associated with gas line disconnection, with scheduled review dates and responsible persons Implement a documented process for legal and standards updates, ensuring changes to legislation, codes of standards are reviewed, impacts assessed and procedures updated Conduct periodic internal audits and, where appropriate, external audits focused on gas safety governance, licensing, documentation and procedural compliance Ensure officers fulfil due diligence duties by receiving regular reports on gas safety performance, incidents, audit findings and corrective actions 	Medium
2. Design, Engineering and Asset Management of Gas Systems	<ul style="list-style-type: none"> Poorly documented or outdated gas system design, making it difficult to identify all lines, isolation points and residual gas sources prior to disconnection Legacy or modified installations that do not comply with current standards, increasing the risk of uncontrolled gas release during disconnection Inadequate engineering review of changes to gas systems (e.g. renovations, equipment upgrades, line rerouting) Lack of accurate as-built drawings, P&IDs, asset registers and tagging systems for gas infrastructure Inadequate segregation or identification of live and redundant gas lines, leading to incorrect line being disconnected 	High	<ul style="list-style-type: none"> Maintain a controlled set of up-to-date engineering drawings, P&IDs and as-built documentation for all gas systems, accessible to authorised personnel Implement an engineering change management process requiring risk assessment, design review and approval for alterations to gas lines, appliances and isolation points Ensure all new and modified gas installations are designed, installed and certified in accordance with relevant Australian Standards and local gas network requirements Develop and maintain an asset management system that uniquely identifies gas lines, valves, regulators and appliances, including status (in use, isolated, decommissioned) Standardise labelling and tagging conventions for gas infrastructure, including permanent identification of main isolation valves and emergency shutoff locations Incorporate inherent safety principles in design (e.g. minimising dead-legs, providing dedicated purge points, ensuring adequate ventilation and access/egress) Require independent verification or commissioning reviews for complex or high-risk gas systems prior to operational use or decommissioning activities Periodically review plant room and gas system layouts to identify improvements in segregation from ignition sources and compatibility with emergency response requirements 	Medium

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	<ul style="list-style-type: none"> Insufficient consideration of ventilation, ignition sources and emergency shutoff capabilities in the design of plant rooms or work areas 			
3. Planning, Permits and Isolation Management	<ul style="list-style-type: none"> Inadequate planning of gas line disconnection leading to incomplete isolation, trapped gas or unexpected back-feed Absence of a formal permit-to-work system for gas isolation and disconnection activities Poorly controlled lock-out tag-out (LOTO) and isolation verification processes Uncoordinated work by multiple contractors or trades on shared gas infrastructure Failure to identify interactions with other energy sources (e.g. electrical, mechanical, thermal) during gas disconnection work 	High	<ul style="list-style-type: none"> Implement a formal permit-to-work system for gas line isolation and disconnection, including documented scope, hazards, controls and audit systems Develop standardised gas isolation procedures that cover identification of all gas sources, isolation sequencing, venting/purging principles and verification steps at a system level Integrate gas isolation into the organisation's broader energy isolation and LOTO framework, ensuring consistency across all energy types Require pre-work coordination meetings (kick starts) for jobs involving multiple contractors or trades to clarify boundaries, responsibilities, isolation points and communication protocols Use isolation plan and diagrams for complex systems, showing valves, regulators and alternate feeds, and attach them to permits for reference Mandate independent verification (e.g. second competent person sign-off) for critical gas isolations or high-risk plant, documented on the permit Ensure permit issuers, supervisors and relevant workers are trained and deemed competent in the gas isolation and permit-to-work system Include checks in the permit close-out process to confirm system is left in the correct configuration (e.g. de-commissioned, safely isolated, or returned to service) 	Low
4. Contractor Management and Competency	<ul style="list-style-type: none"> Engagement of contractors who lack appropriate gasfitting licence, competence or experience with the specific type of gas system Insufficient verification of contractor WHS systems, including procedures for gas isolation, purging and leak testing Poor communication of site-specific hazards, emergency arrangements and interfaces with existing gas infrastructure Inadequate supervision or oversight of contractor activities by the PCBU Conflicting methods of work between different contractors on the same gas system 	High	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	Medium

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			[REDACTED]	
5. Training, Competency and Information	<ul style="list-style-type: none"> Workers, supervisors or managers lacking adequate understanding of gas properties, explosion risks and system behaviour during disconnection Insufficient competency assessment for personnel authorising, supervising or verifying gas isolations Inadequate training on site-specific procedures, permits and emergency response relating to gas systems Lack of awareness of interaction between gas systems and other services (e.g. electrical interlocks, fire systems, ventilation controls) Reliance on informal, undocumented on-the-job training for complex gas safety tasks 	High	[REDACTED]	Medium
6. Documentation, Procedures and Work Instructions	<ul style="list-style-type: none"> Lack of formal procedures for gas safe disconnection, isolation, sequencing, purging and leak verification at a system level Use of outdated, inconsistent or uncontrolled documents, leading to confusion about correct methods and responsibilities Procedures that are overly generic and do not reflect specific site conditions or plant configurations Insufficient guidance on when specialist engineering, OEM or gas network provider input is required 	High	[REDACTED]	Low

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	<ul style="list-style-type: none"> Inadequate documentation of completed work, residual risks and system status after disconnection 		[REDACTED]	
7. Plant, Equipment and Monitoring Systems	<ul style="list-style-type: none"> Use of unsuitable, unmaintained or non-certified equipment for gas isolation, testing or monitoring Inadequate provision of fixed or portable gas detection where disconnection of lines may release gas Failure or absence of pressure gauges, regulators or safety devices critical to safe disconnection Lack of control over hire equipment, contractor tools or temporary plant connected to gas lines No system for periodic inspection, testing and tagging of tools and equipment used in gas-related work 	High	[REDACTED]	Medium
8. Emergency Preparedness, Response and Incident Management	<ul style="list-style-type: none"> Inadequate planning for gas leaks, fires or explosions arising during or after gas line disconnection Workers and contractors not understanding emergency roles, evacuation routes or communication channels Insufficient coordination with emergency services and gas network providers for significant gas incidents 	High	[REDACTED]	Medium

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	<ul style="list-style-type: none"> Lack of structured process to capture, investigate and learn from gas-related near misses or incidents Poor integration of gas emergency scenarios into overall site emergency plans and drills 		[REDACTED]	
9. Site Conditions, Interfaces and Change Management	<ul style="list-style-type: none"> Uncontrolled changes to building layout, occupancy or adjacent services that affect gas disconnection risks Concurrent works (e.g. hot work, electrical, demolition) increasing ignition or damage risk to gas lines Hidden or undocumented underground infrastructure in old buildings or brownfield sites Inadequate management of temporary conditions such as scaffolding, ceiling access or excavation near gas lines Failure to reassess gas-related risks following significant organisational, operational or plant changes 	High	[REDACTED]	Medium
10. Health Monitoring, Welfare and Psychosocial Factors	<ul style="list-style-type: none"> Potential exposure to combustion products, odourants or other contaminants during gas-related activities without appropriate health risk assessment Fatigue, time pressure or production demands influencing planning quality 	Medium	[REDACTED]	Low

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	and decision-making during gas isolation and disconnection • Stress or anxiety among workers who do not feel competent or adequately supported when dealing with gas systems • Insufficient consideration of lone or remote work situations where gas line disconnection or testing may occur • Lack of systems to identify and support workers affected by gas-related incidents or near misses		[REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]	

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.