

Using Rebreathers 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:									
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.									
<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	Improper equipment check, Inadequate training	3H	<ul style="list-style-type: none"> - Conduct thorough training covering rebreather operation and emergency procedures - Ensure all equipment is serviced and checked by a qualified technician - Implement a checklist for pre-dive equipment checks - Ensure divers have valid certification for rebreather use - Limit use of rebreathers to trained personnel only - Keep an up-to-date log of equipment maintenance - Training updates annual or more frequently as technology changes - Review manufacturers guidelines regularly to ensure compliance - Set up schedules for periodic refresher training on rebreather use, including problem-solving scenarios - Establish a record keeping system for training completion 	2M
2. Equipment Inspection	Faulty components, Leaks	4H	<ul style="list-style-type: none"> - Conduct pre-use visual and functionality checks on rebreathers - Use manufacturer-approved diagnostic tools for inspections - Develop an inspection checklist for thorough component checks - Implement a regular maintenance schedule - Train personnel on identifying and reporting faulty equipment promptly - Maintain detailed records of inspection outcomes - Designate a trained supervisor to oversee inspections - Provide immediate replacement of defective components - Ensure spare parts availability on site - Have emergency repair kits available for minor adjustments 	2M
3. Suit and Gear Assembly	Incorrect assembly, Gear malfunction	3H	<ul style="list-style-type: none"> - Follow step-by-step assembly instructions from the manufacturer - Designate personnel responsible for checking critical assembly points - Perform cross-verification by another experienced team member - Conduct integrity checks on completed assemblies - Use clearly labelled parts and ensure compatibility - Provide setup diagrams or videos for reference - Create a standardised protocol for gear assembly - Conduct a pre-dive operational check to confirm correct assembly 	1L

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			<ul style="list-style-type: none"> - Encourage divers to become familiar with their own setups - Schedule regular workshops on proper assembly techniques 	
4. Pre-Dive Safety Check	Neglected safety protocol, Miscommunication	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. Entry to Water	Slips and falls, Equipment 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>	2M
6. Descent	Barotrauma, Rapid descent	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>	1L

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7. Diving Operations	Decompression sickness, Equipment failure	4A		2M
8. Monitoring Air Supply	Carbon dioxide buildup, Loss of primary air supply	4A		2M
9. Navigation	Getting lost, Poor visibility	3H		1L

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10. Behavioural Risks	Panic, Over-exertion	4A		2M
11. Emergency Procedures	Delayed emergency response, Improper emergency handling	4A		2M
12. Ascent	Rapid ascent, Ear injuries	4A		1L

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13. Exit from Water	Hypothermia, Gear entanglement	3H		1L
14. Post-Dive Debrief	Incorrect incident reporting, Overlooking dive issues	3H		1L
15. Equipment Maintenance	Improper cleaning, Component degradation	3H		1L

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16. Equipment Storage	Environmental damage, Unauthorized access	3H		1L
17. Surface Support Coordination	Poor communication, Delayed assistance	4A		2M

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18. Weather and Environmental Monitoring	Sudden weather changes, Poor environmental conditions	4A	<div>1. Check weather forecast before starting work.</div> <div>2. Monitor weather conditions throughout the day.</div> <div>3. Stop work if weather becomes dangerous.</div> <div>4. Use appropriate PPE for weather conditions.</div> <div>5. Have a backup plan for inclement weather.</div> <div>6. Communicate with team about weather changes.</div> <div>7. Use weather-resistant equipment.</div> <div>8. Have a designated shelter or safe area.</div> <div>9. Check for slippery surfaces and take precautions.</div> <div>10. Report any weather-related hazards immediately.</div>	2M
19. Documentation	Data loss, Incorrect records	3H	<div>1. Use secure storage for all records.</div> <div>2. Implement backup procedures for data.</div> <div>3. Double-check data entry for accuracy.</div> <div>4. Use standardized forms for records.</div> <div>5. Regularly audit records for completeness.</div> <div>6. Train staff on proper documentation procedures.</div> <div>7. Have a contingency plan for data loss.</div> <div>8. Use secure communication channels for reports.</div> <div>9. Verify all information before recording.</div> <div>10. Keep records in a secure, accessible location.</div>	1L
20. Review and Audit	Failure to identify issues, Lack of accountability	3H	<div>1. Conduct regular reviews of work.</div> <div>2. Assign specific responsibilities to team members.</div> <div>3. Encourage open communication about issues.</div> <div>4. Implement a system for reporting problems.</div> <div>5. Hold team members accountable for their work.</div> <div>6. Review and discuss any identified issues.</div> <div>7. Develop action plans to address problems.</div> <div>8. Provide feedback to team members.</div> <div>9. Monitor progress of corrective actions.</div> <div>10. Foster a culture of continuous improvement.</div>	1L

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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.