

Working Near Radiation Source 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	Exposure to high radiation levels, Improper equipment handling	4A	<ul style="list-style-type: none"> - Conduct comprehensive radiation safety training for all employees involved. - Provide appropriate dosimetry devices to monitor radiation exposure. - Establish a controlled access policy to restrict entry to authorised personnel only. - Inspect and maintain all equipment to ensure proper functionality and safety compliance. - Display clear and visible radiation warning signs in relevant areas. - Develop a standard operating procedure outlining safety steps and emergency procedures. - Establish a decontamination protocol for personnel and equipment. - Implement radiation monitoring program to track exposure levels. - Conduct regular risk assessments to identify and address new hazards. - Appoint Radiation Safety Officer to oversee operations and compliance. 	3H
2. Equipment Check	Faulty radiation detectors, Inadequate shielding	3M	<ul style="list-style-type: none"> - Test all radiation monitoring devices before each use. - Ensure all equipment is calibrated and maintained regularly. - Provide maintenance training to designated personnel. - Check shielding materials for wear and damage. - Ensure that non-essential personnel are kept at a safe distance. - Implement a system for reporting and addressing equipment failures immediately. - Regularly review and update equipment manuals and procedures. - Use only approved and certified equipment from reliable manufacturers. - Keep spare equipment available to replace faulty units promptly. - Conduct pre-use briefings to ensure operator awareness of latest protocols. 	2M
3. Area Monitoring	Radiation leaks, Undetected exposure	4A	<ul style="list-style-type: none"> - Use fixed and portable radiation detectors to monitor area. - Conduct real-time monitoring during high-risk operations. - Establish zone map with varying levels of access based on risk. - Train staff to interpret and respond to detector alerts effectively. - Implement automatic shutdown systems for critical detections. - Regular audits and checks of monitoring systems' accuracy. - Use signage to demarcate safe zones and restrict access. - Have emergency equipment ready and staff trained in use. 	2M

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			<ul style="list-style-type: none"> - Regularly update the site's radiation map to reflect changes. - Review area monitoring methods to incorporate technological advancements. 	
4. Personnel Training	Insufficient knowledge, Non-compliance to protocols	3H	<ul style="list-style-type: none"> - [REDACTED] - [REDACTED] - [REDACTED] - [REDACTED] - [REDACTED] - [REDACTED] - [REDACTED] - [REDACTED] - [REDACTED] - [REDACTED] 	1L
5. Access Control	Unauthorised entry, Lack of site visit supervision	3H	<ul style="list-style-type: none"> - [REDACTED] - [REDACTED] - [REDACTED] - [REDACTED] - [REDACTED] - [REDACTED] - [REDACTED] - [REDACTED] - [REDACTED] - [REDACTED] 	2M
6. Emergency Preparedness	Delayed emergency response, Misinformation during crisis	4A	<ul style="list-style-type: none"> - [REDACTED] - [REDACTED] - [REDACTED] - [REDACTED] - [REDACTED] 	2M

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7. Radiation Source Handling	Handling errors, Inadequate protective gear	4A		3H
8. PPE Usage	Incorrect PPE usage, PPE discomfort	3H		2M
9. Source Securement	Source misplacement, Improper storage	4A		2M

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10. Maintenance Schedule	Equipment malfunction, Overlooked defects	4A		2M
11. Communication Protocols	Miscommunication, Information blockages	3H		1L
12. Waste Management	Exposure to radioactive waste, Improper disposal techniques	4A		2M

pread, Ecosystem

4A

es, Process

3H

g compl

3H

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18. Decommissioning Protocols	Residual radiation risk, Improper equipment disposal	4A		3H

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.