

## Operating Automated Cleaning Robots 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			<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.	<b>Isolation</b> 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.	<b>Administrative</b> Change
								<b>PPE</b>

## 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	Electrical shock, Slippery floors	3H	<ul style="list-style-type: none"> <li>- Conduct a site-specific risk assessment prior to commencing tasks</li> <li>- Ensure all floors are dry and clean</li> <li>- Use signage to warn of potential slip hazards</li> <li>- Regularly inspect electrical cords for damage</li> <li>- Train employees in safe equipment handling</li> <li>- Wear non-slip footwear</li> <li>- Implement scheduled cleaning times outside business hours</li> <li>- Limit access to areas during cleaning</li> <li>- Keep work area tidy and clutter-free</li> <li>- Supervise new operators</li> </ul>	2M
2. Equipment Inspection	Mechanical failure, Sharp edges	3H	<ul style="list-style-type: none"> <li>- Perform regular maintenance checks on equipment</li> <li>- Inspect robots for sharp or protruding parts</li> <li>- Replace worn or damaged components immediately</li> <li>- Keep a maintenance logbook</li> <li>- Train operators in equipment inspection techniques</li> <li>- Use personal protective equipment (PPE) when necessary</li> <li>- Verify all safety interlocks are functional</li> <li>- Analyse manufacturer guidelines for inspection</li> <li>- Never bypass safety features</li> <li>- Ensure equipment is powered off during inspection</li> </ul>	1L
3. Charging Robots	Electrical hazard, Fire risk	3H	<ul style="list-style-type: none"> <li>- Use charging stations recommended by manufacturer</li> <li>- Ensure charging area is clean and dry</li> <li>- Never overload power outlets</li> <li>- Regularly inspect chargers for damage</li> <li>- Train staff on emergency procedures for electrical fires</li> <li>- Monitor charging duration to prevent overheating</li> <li>- Install RCDs for electrical safety</li> <li>- Store charging equipment securely</li> </ul>	2M

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			<ul style="list-style-type: none"> <li>- Provide adequate ventilation in charging areas</li> <li>- Maintain a clear evacuation route</li> </ul>	
4. Map Configuration	Incorrect mapping causing collision, Data breach	3H	<ul style="list-style-type: none"> <li>[REDACTED]</li> <li>[REDACTED]</li> <li>[REDACTED]</li> <li>[REDACTED]</li> <li>[REDACTED]</li> <li>[REDACTED]</li> <li>[REDACTED]</li> <li>[REDACTED]</li> <li>[REDACTED]</li> <li>[REDACTED]</li> </ul>	1L
5. Initial Operation	Unexpected robot movement, Operator distraction	4A	<ul style="list-style-type: none"> <li>[REDACTED]</li> <li>[REDACTED]</li> <li>[REDACTED]</li> <li>[REDACTED]</li> <li>[REDACTED]</li> <li>[REDACTED]</li> <li>[REDACTED]</li> <li>[REDACTED]</li> <li>[REDACTED]</li> <li>[REDACTED]</li> </ul>	2M
6. Robot Maintenance	Chemical exposure, Mechanical injury	3H	<ul style="list-style-type: none"> <li>[REDACTED]</li> <li>[REDACTED]</li> <li>[REDACTED]</li> <li>[REDACTED]</li> <li>[REDACTED]</li> <li>[REDACTED]</li> <li>[REDACTED]</li> <li>[REDACTED]</li> </ul>	1L

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7. Emergency Shutdown	System override failure, Panic response	4A		1L
8. Post-Operation Inspection	Residual cleaning chemical damage	3H		1L
9. Transporting Robots	Dropping robots, Physical strain	3H		2M

ction, Cybersecurity

3H

s, Vacuum collisions

3H

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13. Storing Robots	Theft, Degradation from poor storage	3H		1L
14. Operating in Confined Spaces	Lack of ventilation, Collision due to space constraints	4A		2M
15. Staff Training	Improper machine handling, Inadequate emergency response	4A		1L

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			<div></div> <div></div> <div></div> <div></div> <div></div> <div></div>	

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.