

Electrical Appliances Tools and Leads

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.

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, WHS Duties and Legislative Compliance	<ul style="list-style-type: none"> Lack of clear allocation of WHS duties for electrical safety under WHS Act 2011 and WHS Regulations Absence of an organisational electrical safety policy covering appliances, tools and leads Directors and officers not exercising due diligence in relation to electrical risk management Failure to identify and apply relevant Australian Standards (e.g. AS/NZS 3000, AS/NZS 3760, AS/NZS 4836) No process to monitor changes in legislation, Codes of Practice or standards regarding electrical equipment Inadequate consultation with workers and health and safety representatives on electrical risks and controls Lack of clarity regarding responsibilities when electrical equipment is supplied by subcontractors or workers (BYO tools) 	4A	<ul style="list-style-type: none"> Develop and implement an Electrical Safety Policy explicitly addressing electrical appliances, portable tools, extension cords and leads, aligned with the WHS Act 2011 and WHS Regulations Define and document WHS electrical safety responsibilities for PCBUs, officers, managers, supervisors, electricians, workers and contractors Establish a due diligence framework for officers, including regular reporting on electrical incidents, inspection results, RCD performance and maintenance metrics Maintain a legal and standards register referencing relevant Acts, Regulations, Codes of Practice and Australian Standards for electrical safety, and review at least annually Integrate electrical risk management into the organisation's WHS Management System, including risk registers and consultation mechanisms Ensure consultation mechanisms (HSCs, toolbox talks, pre-starts) routinely address electrical safety topics and worker feedback is actioned Include electrical safety expectations and responsibilities in contractor management procedures and contracts Conduct periodic independent reviews or audits of electrical safety governance and compliance 	3H
2. Procurement and Design of Electrical Appliances, Tools and Leads	<ul style="list-style-type: none"> Purchase of low-quality or non-compliant electrical appliances and tools without appropriate certification Selection of tools and appliances not fit for purpose or environment (e.g. non-rated tools used outdoors or in wet conditions) Procurement of extension cords and power boards not suited to load, duty cycle or industrial use Use of unfused multi-plug adaptors and piggyback plugs increasing overload and fire risk Inadequate consideration of inherent safety features (e.g. double insulation, automatic shut-off, guards, lock-out capability) Incorrect selection of portable RCDs, safety switches and power distribution devices for site conditions 	4A	<ul style="list-style-type: none"> Implement a procurement procedure requiring all electrical appliances, power tools, extension cords and power boards to comply with relevant Australian Standards and carry evidence of certification Specify minimum design and safety requirements for tools and appliances (e.g. double insulated, IP rating appropriate to environment, guarded moving parts, overload protection) Standardise on industrial-grade, heavy-duty extension leads and power boards with overload protection, strain relief and appropriate IP rating for site conditions Prohibit purchase and use of unfused multi-plug adaptors, piggyback plugs and daisy-chained domestic power boards through procurement and policy Require all new electrical equipment to be reviewed by a competent person (e.g. electrical supervisor) prior to introduction to site Ensure procurement specifications include requirements for compatible RCDs / safety switches, including plug-in portable safety switches where fixed RCDs are not available Incorporate colour coding, length limitations and high-visibility sheathing for extension cords to reduce trip, damage and misplacement risks Maintain a central approved products list for electrical appliances, tools, leads and RCD devices 	2M

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	<ul style="list-style-type: none"> No controls for intersecting power plugs and sockets leading to trip hazards and mechanical damage 			
3. Asset Registration, Tagging and Test-and-Tag Program	<ul style="list-style-type: none"> Electrical appliances, tools and leads not captured in any asset register leading to missed inspections and tests Overdue or non-existent test-and-tag resulting in undetected insulation damage, earth faults or defective plugs and sockets Use of untagged or out-of-date tagged equipment on site Inconsistent tagging practices between contractors and direct employees Reliance on visual checks only without scheduled electrical testing by a competent person Lack of traceability for defective equipment removed from service 	4A	<ul style="list-style-type: none"> Establish and maintain an electrical equipment register for all portable appliances, power tools, extension cords, RCDs and power boards, including ownership and location Implement a formal testing and tagging program in accordance with AS/NZS 3760, including defined test frequencies by risk category and environment Adopt a standardised tag colour and labelling system with clear next-test dates and identification of responsible testing personnel Introduce system controls (e.g. site access rules, pre-start checks) that prohibit use of untagged or out-of-date tagged equipment Require evidence of compliant test-and-tag for all contractor-supplied electrical tools, appliances and leads before use on site Use an electronic tagging system to record test results, failures, and removal-from-service actions, including serial number or unique ID Establish procedures for immediate tagging-out and secure isolation of defective items until repair or disposal Periodically audit the testing provider's competence, equipment calibration and adherence to test procedures 	2M
4. Inspection, Maintenance and Repair Systems	<ul style="list-style-type: none"> Inadequate routine inspection of electrical tools, appliances and leads resulting in undetected damage No formal maintenance schedule for high-use or high-load electrical equipment such as drills, grinders and stapling guns Repairs carried out by unlicensed or unqualified persons using incorrect parts or methods Failure to remove from service equipment with frayed cords, broken plugs, exposed conductors or bypassed safety features Poor record-keeping of maintenance, repairs and replacements Reintroduction of unsafe tools or leads to service without verification testing 	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>	2M

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			[REDACTED]	
5. Use of Residual Current Devices (RCDs) and Portable Safety Switches	<ul style="list-style-type: none"> • Operation of portable electrical tools and appliances without functional RCD protection • Failure of fixed RCDs or portable safety switches due to lack of testing and maintenance • Inappropriate selection or placement of RCDs in circuits not protecting all downstream sockets and leads • Misunderstanding of RCD limitations leading to false sense of security when using equipment in wet or conductive locations • Use of portable safety switches that are damaged, incorrectly wired or untested • Multiple devices connected through power boards and extension leads bypassing RCD protection 	4A	<ul style="list-style-type: none"> [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] 	2M
6. Extension Cords, Running Leads and Power Distribution Management	<ul style="list-style-type: none"> • Incorrect placement and routing of extension cords leading to trip hazards, crushing damage or contact with sharp edges • Running electrical cords across walkways, access routes, vehicle lanes or through doorways with no protection • Intersecting power plugs and sockets creating entanglement, strain on connections and ingress of moisture or contaminants • Excessive use of extension leads instead of installing permanent outlets, resulting in overloading and overheating • Use of coiled extension leads under load increasing fire risk • Uncontrolled use of power boards and double adaptors leading to circuit overloading 	4A	<ul style="list-style-type: none"> [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] 	2M

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			[REDACTED]	
7. Environmental Conditions and Use in Wet or Harsh Locations	<ul style="list-style-type: none"> • Use of electrical tools, extension leads and appliances in wet or damp conditions increasing electric shock risk • Operation of electrical equipment in areas prone to flooding, washdown, rain or condensation without appropriate IP rating • Leads running through water, on wet ground or across metal structures • Inadequate control of electrical work in confined spaces, conductive locations or cramped positions • Ingress of dust, metal swarf or corrosive substances into tools, plugs and sockets resulting in insulation breakdown • Poor weather monitoring and failure to suspend or modify electrical work during adverse conditions 	4A	[REDACTED]	2M
8. Electrical Load Management and High-Power Device Use	<ul style="list-style-type: none"> • Overloading of circuits, extension leads and power boards by plugging multiple high-power devices • Inadequate assessment of electrical load requirements for plant, tools and appliances • Frequent plugging and unplugging of high-power devices leading to arcing, plug damage and overheating • Lack of dedicated circuits or outlets for high-current appliances (e.g. heaters, welders, large drills) • Use of undersized leads or domestic-grade equipment for industrial loads • Uncontrolled use of space heaters or similar high-draw appliances in temporary or confined locations 	4A	[REDACTED]	2M

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			[REDACTED]	
9. Worker Competency, Training and Instruction	<ul style="list-style-type: none"> Workers not adequately trained in electrical safety for tools, appliances, extension cords and RCDs Incorrect use of stapling guns, drilling equipment and other powered tools leading to electric shock or equipment damage Limited understanding of the importance of correct extension cord placement and routing Lack of awareness of the risks associated with using electrical tools in wet conditions or confined conductive locations Inability to recognise early signs of electrical faults, damaged insulation, or overheating plugs and sockets Workers performing basic electrical modifications or repairs without appropriate competency 	3H	<ul style="list-style-type: none"> [REDACTED] 	2M
10. Information, Labelling, Signage and Instructions for Use	<ul style="list-style-type: none"> Lack of clear instructions for use of electrical appliances, tools and leads Missing or illegible manufacturer labels, ratings and warnings on equipment Confusion over which outlets are RCD-protected and which are not No signage highlighting prohibited practices such as daisy-chaining power boards or using tools in wet areas Workers not understanding plug and lead ratings, resulting in inappropriate combinations Absence of visible contact information for reporting electrical defects or incidents 	3H	<ul style="list-style-type: none"> [REDACTED] 	2M

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			[REDACTED]	
11. Supervision, Behavioural Expectations and Compliance Monitoring	<ul style="list-style-type: none"> • Non-compliance with electrical safety procedures due to production pressure or poor supervision • Risk-taking behaviours such as bypassing RCDs, using damaged leads, or operating tools in wet areas against instructions • Normalisation of deviance where unsafe practices become accepted custom and practice • Supervisors lacking confidence or knowledge to challenge unsafe electrical practices • Inconsistent enforcement of rules across shifts, locations or contractor groups 	3H	[REDACTED]	2M
12. Contractor and Visitor Electrical Equipment Management	<ul style="list-style-type: none"> • Contractors and visitors bringing non-compliant or untested electrical tools, appliances and leads • Inconsistent electrical safety standards between principal CBU and subcontractors • Lack of control over use of private hire equipment such as shoring, cranes, drills and portable appliances • Multiple parties using shared power points and extension leads without a defined coordinator • Difficulty tracking and managing test-and-tag status for transient contractor equipment 	3H	[REDACTED]	2M
13. Storage, Handling and Transport of Electrical Tools and Leads	<ul style="list-style-type: none"> • Improper storage of extension cords and tools leading to kinking, crushing, UV damage or moisture ingress 	3H	[REDACTED]	2M

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	<ul style="list-style-type: none"> Leads transported loose in vehicles or toolboxes causing abrasion, cuts or damage to insulation and plugs Coiling leads too tightly or wrapping around tools causing internal conductor breakage Storage of electrical equipment in wet, corrosive or dusty environments reducing insulation life and reliability Unsecured tools and appliances falling or being struck, damaging housings and internal wiring 		[REDACTED]	
14. Planning of Electrical Work, Task Risk Assessment and Interface with Other Activities	<ul style="list-style-type: none"> Inadequate pre-planning of tasks involving multiple electrical tools and extension leads in congested work areas Electrical cords intersecting with hot works, mechanical operations or moving plant leading to damage and exposure Lack of coordination between trades causing overloading of outlets and unsafe routing of leads Failure to incorporate potential hazards into job safety analysis or pre-start risk assessments Changes in work scope leading to ad-hoc addition of electrical appliances and tools without reassessment of risks 	3H	[REDACTED]	2M
15. Incident Reporting, Emergency Response and First Aid for Electrical Shock	<ul style="list-style-type: none"> Delayed or ineffective response to electric shock incidents from tools, appliances or leads Failure to report near misses such as tripped RCDs, arcing plugs or minor shocks from stapling guns or drills Inadequate first aid capability and training for electrical injuries Re-energising circuits or reusing equipment after an incident without investigation 	3H	[REDACTED]	1L

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	<ul style="list-style-type: none"> Lack of structured incident investigation to identify root causes and systemic failures 		<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	
16. Monitoring, Audit and Continuous Improvement of Electrical Safety Systems	<ul style="list-style-type: none"> Failure to detect deterioration in electrical safety performance over time Outdated procedures and controls not reflecting current legislation, standards or technology Incomplete or inaccurate records of inspections, tests and maintenance activities Lack of performance indicators specific to electrical safety (e.g. RCD test compliance, near misses, damaged led findings) No mechanism for workers to provide feedback on practicality and effectiveness of electrical controls 	3H	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	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 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.