

Upgrade Existing Electrical Systems Risk Assessment

Business Name:	ABN:	
Business Address:		
Contact Person:	Phone:	Email:

THIS RISK ASSESSMENT IS APPROVED BY THE PCBU ON THE 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	Electrical shock, Exposure to live wires	3H	<ul style="list-style-type: none"> - Conduct a site-specific risk assessment before commencing work - Ensure all personnel are trained in electrical safety - Verify isolation protocols and lockout/tagout procedures are in place - Distribute personal protective equipment (PPE) to all workers - Install barriers and signs to prevent unauthorised access to work areas - Use insulated tools and equipment - Schedule work during periods of low occupancy - Confirm all safety documentation is up to date - Establish emergency communication channels - Limit working hours to reduce fatigue 	2M
2. Isolation of Power Supply	Arc flash, Incorrect isolation methods	4H	<ul style="list-style-type: none"> - Follow standard isolation and lockout/tagout procedures - Test equipment to verify zero energy state - Document isolation process and communicate with all personnel - Train employees on arc flash safety protocols - Use arc flash suits with proper arc ratings - Review manufacturer guidelines for equipment serviced - Ensure area is free of flammable materials - Assign a dedicated observer for the isolation process - Ensure insulated barriers are positioned correctly - Mark all isolated circuits for future reference 	2M
3. Removal of Old Wiring	Inadvertent contact with live circuits, Trips and falls	3H	<ul style="list-style-type: none"> - Double-check all circuits are de-energised before removal - Use non-conductive ladders - Implement clear pathways and remove obstructions - Train staff on safe removal techniques - Ensure all workers have appropriate PPE - Assign a spotter to monitor activities - Use mechanical aids to handle heavy components - Adhere to ergonomic practices during removal 	2M

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			<ul style="list-style-type: none"> - Keep work area organised to prevent tripping - Regularly inspect tools for damage 	
4. Installation of New Wiring	Electrical shock, Unintentional energisation	4A	<ul style="list-style-type: none"> - De-energise the system and lock out the circuit - Verify the absence of voltage using a properly rated voltage tester - Establish and maintain safe work boundaries - Use insulated tools and equipment - Wear appropriate PPE (gloves, safety glasses) - Ensure proper grounding and bonding - Follow manufacturer's instructions for wiring - Use proper wiring techniques (e.g., twisting, soldering) - Avoid overloading circuits - Test the system after completion 	2M
5. Installing New Switchboards	Heavy lifting injuries, Incorrect installation	3H	<ul style="list-style-type: none"> - Use proper lifting techniques (bend knees, lift with back) - Use appropriate lifting equipment (hoists, forklifts) - Ensure the switchboard is properly supported - Verify the location and orientation of the switchboard - Follow manufacturer's instructions for installation - Use proper wiring techniques for the switchboard - Test the switchboard after installation - Ensure the switchboard is properly grounded - Avoid overloading the switchboard - Use proper safety procedures for high voltage equipment 	1L
6. Testing and Commissioning	Faulty equipments, High voltage testing	4A	<ul style="list-style-type: none"> - Perform visual inspection of the equipment - Test the equipment for proper operation - Use proper safety procedures for high voltage testing - Ensure the equipment is properly grounded - Avoid overloading the equipment - Test the equipment under load conditions - Document the test results - Obtain approval for commissioning - Monitor the equipment during operation - Be prepared to shut down the equipment in case of an emergency 	2M

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7. Documentation and Handover	Miscommunication, Non-compliance with standards	2M		1L
8. Clean-up and Disposal	Sharp objects, Environmental hazards	2M		1L
9. Final Inspection	Overlooked defects, Non-compliance	2M		1L

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10. Review and Feedback	Non-reporting of issues, Lack of improvement	2M		1L
11. Annual Maintenance Scheduling	Neglect of maintenance, Lack of regular inspections	2M		1L
12. Training and Upskilling	Inadequate training, Resistance to change	2M		1L

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13. Emergency Preparedness	Inadequate response to emergencies, Poor communication	3H		2M
14. Equipment Calibration	Instrument inaccuracies, Equipment malfunction	3H		2M
15. Continuous Improvement	Stagnation, Loss of innovation	2M		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.