Generator (Genset)			
Business Name:		ABN:	
Business Address:			
Contact Person:	Phone:	Email:	

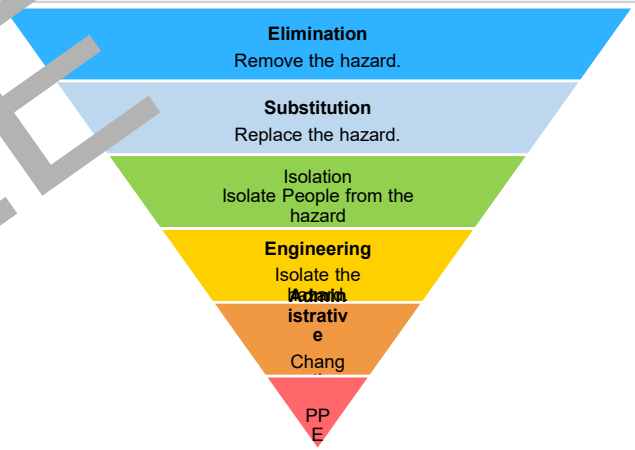
THIS RISK ASSESSMENT IS APPROVED BY THE PCBU OF THE PROJECT		
Under the Work Health and Safety Regulation (WHS Regulation), a person conducting a business or undertaking (PCBU) is required to ensure that a RISK ASSESSMENT is prepared before the proposed work starts.		
Full Name:		
Signature:	Title:	Date:

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
ALMOST CERTAIN	3 HIGH	3 HIGH	4 ACUTE	4 ACUTE	4 ACUTE		
LIKELY	2 MODERATE	3 HIGH	3 HIGH	4 ACUTE	4 ACUTE	4A ACUTE	DO NOT PROCEED
POSSIBLE	1 LOW	2 MODERATE	3 HIGH	4 ACUTE	4 ACUTE	3H HIGH	Rev before work
UNLIKELY	1 LOW	1 LOW	2 MODERATE	3 HIGH	4 ACU	2M MO RATE	Ensure control measures in place.
RARE	1 LOW	1 LOW	2 MODERATE	3 HIGH	3 H	1L LOW	Monitor and keep records.

HIERARCHY OF CONTROLS



Risk Rating & Required Action:

4A	Stop work. The risk is intolerable. E inate the hazar redesign the activity before proceeding. A Safe Work Method Statement (SWMS) or hi er-level authorisati is required.
3H	Review and approve additional c rols b ask arts. Senior supervisor sign-off needed.
2M	Ensure all nominated controls are in ace and effe ive. 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, Legal Compliance and WHS Duties	• Lack of clear WHS governance for generator (genset) activities, including unclear PCBU and officer responsibilities under WHS Act 2011 • Failure to identify and comply with applicable Australian WHS legislation, regulations, codes of practice and Australian Standards relating to generators and electrical installations • No documented policy or procedure for emergency and backup generator use, testing and maintenance across the organisation • Poor integration of generator risks into the overall WHS management system and risk register • Inadequate consultation with workers, health and safety representatives (HSRs), contractors and building management regarding generator risks and controls • Inadequate due diligence by officers in ensuring resources and systems are in place to manage generator-related risks • Lack of formal review of generator-related incidents, near misses and changes in legislation, technology or operations	High	• Establish and document a WHS governance framework that explicitly includes emergency, backup and portable generators, outlining PCBU and officer duties under the WHS Act 2011 • Identify and maintain a register of applicable legislation and standards for generator systems, including WHS Act 2011, WHS Regulations, Electrical Safety legislation (where applicable by jurisdiction), and relevant Australian Standards (e.g. AS/NZS 3000, AS/NZS 3010, AS 3011 series, AS 2790 for petrol engines) • Develop and endorse an organisation-wide Generator Safety and Operation Policy that addresses procurement, installation, operation, transport, storage, maintenance, testing and decommissioning of generator sets • Embed generator-related hazards and controls into the corporate WHS risk register and site-specific risk assessments, including for backup generators, emergency generator operation and portable petrol generators • Implement formal consultation processes (toolbox talks, HSR forums, consultation committees) specifically addressing generator risks, proposed changes, and outcomes of incident investigations • Require officers to periodically review generator risk reports, maintenance compliance, test records and incident trends as part of their due diligence obligations • Schedule annual reviews of all generator-related policies, procedures and risk assessments, or sooner after significant incidents, regulatory changes or introduction of new generator technology	Medium
2. Procurement, Design and Specification of Generators	• Selection of generators (fixed or portable) that are not fit for purpose in terms of power rating, duty cycle, environment, or emergency backup requirements • Procurement driven solely by price without adequate consideration of safety features (RCDs, guards, emergency stops, noise attenuation, emission controls, fuel type and containment) • Lack of engineering assessment of emergency and backup power needs for critical systems (e.g. life safety, fire systems, ICT, medical equipment)	High	• Develop a formal generator procurement standard that specifies minimum safety, quality, and compliance requirements for all gensets (backup, emergency and portable petrol units) • Require engineering assessment and load studies by a competent electrical engineer for all backup and emergency generator installations, including discrimination and critical load identification • Mandate that all generators and associated switchgear comply with applicable Australian Standards and are sourced from reputable suppliers with evidence of compliance and third-party certification where available • Include clear safety specification criteria in tender and purchase documents, covering RCD protection, automatic or manual transfer switches, noise and exhaust management, spill containment, lockable fuel systems, guards and emergency stops • Standardise generator models and control systems where practicable to simplify training, maintenance, spare parts and emergency operation procedures	Medium

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SPECIFIC WORK STEPS	HAZARDS THAT MAY ARISE	INITIAL RISK	SPECIFIC MEASURES TO BE PUT IN PLACE TO ELIMINATE OR CONTROL THE RISKS	RESIDUAL RISK
	• Importing or purchasing non-compliant or unapproved generator units and accessories that do not meet Australian Standards or local electrical safety requirements • Inadequate specification of controls for carbon monoxide (CO), fuel storage, noise, vibration, manual handling and transport in procurement documents • Poor integration between building electrical design and generator systems (e.g. unsafe changeover arrangements, risk of backfeed into grid, inadequately rated switchgear) • Failure to specify standardised models or systems, leading to multiple brands and configurations that increase training and maintenance complexity		• Ensure design coordination between building services engineers, electrical contractors and WHS personnel so that generator integration (including changeover panels and backup power pathways) is safe and documented • Include lifecycle cost and safety considerations in procurement decisions, including remote monitoring capability, auto-test functions and integration with building management systems where appropriate	
3. Installation, Commissioning and Integration with Electrical Systems	• Inadequate oversight of electrical design and installation leading to unsafe connections, risk of electric shock, fire or backfeed to incoming supply • Generators installed in locations with poor ventilation, inadequate exhaust routing or proximity to air intakes, creating carbon monoxide and fume hazards • Insufficient structural support and anchoring of fixed generators, increasing risk during vibration, severe weather or seismic events • Improper segregation of fuel storage from ignition sources and occupied spaces, increasing fire and explosion risk • Lack of clearly labelled and tested changeover systems for emergency and backup generator operation, causing confusion and unsafe switching during outages • Inadequate earthing and bonding arrangements for portable generator setups and temporary backup systems	High	• Require all fixed and key portable generator installations to be designed and installed by licensed and competent electrical contractors and engineers in accordance with Australian Standards and local electrical safety regulations • Implement a formal design review and approval process involving WHS, facilities management and electrical engineering prior to installation • Specify and verify adequate ventilation, exhaust routing and separation distances from openings and air intakes to control exposure to CO and engine exhausts • Ensure fuel storage and piping for generators complies with fire safety, building code and environmental requirements, including bunding and separation from ignition sources • Mandate clearly labelled, lockable and interlocked changeover switches to prevent backfeed into the grid and provide clear indication of supply source • Verify appropriate earthing and bonding arrangements for each generator application, including portable and temporary systems, via testing and certification by a competent person • Establish a documented commissioning procedure that includes electrical tests, functional tests, emergency start tests, auto-start (where fitted) and shutdown behaviour, with records retained and defects tracked to completion	Medium

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
	• Absence of formal commissioning process, including performance testing under load, failover tests and verification of safety interlocks			
4. Fuel Management, Storage and Environmental Controls	• Inadequate systems for safe storage and handling of petrol and diesel for generators, leading to fire, explosion or environmental spills • Lack of controls over decanting and transfer of fuel into portable generators or day tanks • Insufficient segregation between fuel storage areas and workplaces, emergency exits, ignition sources or public areas • No clear responsibilities or procedures for inspecting tanks, hoses, valves and spill containment systems • Failure to manage fuel quality, age and contamination, resulting in generator failure during critical backup events • Poor record keeping of fuel deliveries, usage, inspections and s idents • Inadequate emer cy response procedures and e pment for fu leaks, fires and ex ure i nts	High	[redacted]	Medium
5. Training, Competency and Authorisation	• Untrained or inadequately trained personnel operating, transporting maintaining generators, p y petrol-driven portable units and emergency backup generators • No formal competency requirements for key roles such as authorised operators, maintainers, supervisors and electricians responsible for generator systems • Reliance on informal or on-the-job instruction without structured learning, supervision or competency assessment • Lack of refresher training on emergency generator operation and manual changeover processes, leading	High	[redacted]	Medium

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
	to poor performance during real power outages • Insufficient training on specific risks such as electrical hazards, CO exposure, noise, manual handling, fuel hazards and confined spaces around some plant rooms • Contractors working on or with generators without verification of competencies and licences		[redacted]	
6. Procedures for Routine Operation and Emergency Use	• Absence of clear, documented procedures for starting, operating and shutting down generators during planned use and emergencies • Confusion in roles and responsibilities during power failures, leading to delayed or unsafe activation of backup generators • Reliance on verbal instructions or single individuals with critical knowled of generator systems • Non-standardised procedures betwee sites, resulting in inconsi esponses to power outages an mergency generator operatio • Lack of documen tri and decision-making crite or when to deploy portable generators or switch backup power in different scenari • Failure to consider after-hours, remote or lone-worker scenarios in generator operation procedures	Hi	[redacted]	Medium
7. Inspection, Testing, Maintenance and Reliability Management	• Lack of systematic preventative maintenance leading to failure of generators during real emergencies • Irregular or undocumented periodical testing of backup power systems, including automatic start and changeover functions • Dependence on reactive repairs rather than planned maintenance, increasing downtime and risk of catastrophic failure	High	[redacted]	Low

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SPECIFIC WORK STEPS	HAZARDS THAT MAY ARISE	INITIAL RISK	SPECIFIC MEASURES TO BE PUT IN PLACE TO ELIMINATE OR CONTROL THE RISKS	RESIDUAL RISK
	• Failure to test under load conditions representative of real operation, masking underlying capacity or cooling issues • Inadequate inspection of safety features such as emergency stops, guards, ventilation, exhausts, spill containment and electrical protection devices • Poor management of third-party service providers, leading to inconsistent standards, missed tasks or incomplete reporting		[redacted]	
8. Portable Generator Management, Transport and Storage	• Uncontrolled acquisition and use of portable petrol generators outside established systems and standards • Improper transport of portable generators and fuel in vehicles, increasing risk of spills, fumes, fire or manual handling injuries • Inadequate storage arrangements fo portable units, leading to exposure to weather, tampering, theft deterioratio • Use of portable ge rators in enclosed or partially enclose spaces, including garages, worksho tents building air intakes, g CO exposure • Improvised and unsafe connec n of portable generators to bui ing wiring or equipment (e.g. “backfeeding” via power outlets) • Failure to inspect portable units after transport, hire or loan before redeployment to work sites	High	[redacted]	Medium
9. Noise, Vibration and Occupational Hygiene Controls	• Excessive noise from generator operation affecting workers, nearby tenants or the public, leading to hearing loss or nuisance complaints • Vibration from fixed or portable generators causing equipment damage,	High	[redacted]	Medium

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
	structural issues or ergonomic discomfort • Exposure to diesel or petrol exhaust, including CO, nitrogen oxides and particulates, for workers operating or working near generators • Inadequate consideration of noise and exhaust impacts during backup generator testing, especially during night-time or in sensitive locations • Lack of monitoring or assessment of exposure levels to noise and exhaust in high-risk areas such as enclosed plant rooms or loading docks		[redacted]	
10. Emergency Preparedness, Testing and Business Continuity	• Inadequate planning for the role of generators in emergency response and business continuity, leading to critical service failures during outages • Lack of coordination between WHS, clinical or operational teams and facilities regarding priority loads and backup power duration • Failure to routinely test emergency generator start-up, changeover and load transfer as part of emergency drills • Insufficient contingency planning for generator failure, fuel shortage or prolonged outages beyond expected backup duration • Poor communication to workers, tenants and stakeholders about generator testing, outages and expected behaviour during power disruptions	High	[redacted]	Low
11. Documentation, Labelling and Information Management	• Incomplete or outdated documentation for generator systems, including drawings, manuals, schematics and test records • Poor labelling of generator controls, switchboards, fuel lines, isolation points	Medium	[redacted]	Low

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
	and distribution circuits, leading to operator error • Lack of central repository for generator-related information, causing delays or mistakes during emergencies or when engaging contractors • Failure to record and track changes to generator installations, control systems or load configurations • Difficulty in retrieving historical test and maintenance records needed for compliance, audits or incident investigation		[redacted]	
12. Contractor, Hire and Third-Party Interface Management	• Contractors working on generators without alignment to the organisation's WHS procedures and risk controls • Hired or temporary ge[redacted]s brought onto site with unkno[redacted] maintenance history, safety feat[redacted]es or compliance status • Poor coordination between building owners, tenants and service provid[redacted] regarding responsibilities for ge[redacted]ator operation, testing and ma[redacted]ance • Inadequate supervision or oversight of contractor activities, including electrical work, fuel delivery and major overhauls • Lack of clarity in contracts about required certifications, reporting and response times for generator faults	High	[redacted]	Medium
13. Monitoring, Audit and Continuous Improvement	• No systematic monitoring of generator-related performance, incidents, near misses or compliance status	Medium	[redacted]	Low

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
	• Failure to detect emerging issues, such as increased start failures, nuisance trips or fuel contamination trends • Weak internal audit processes that overlook generator systems or focus only on paperwork rather than functional readiness • Lack of worker feedback mechanisms to identify practical problems in generator operation and management • Inadequate follow-up on corrective actions from incidents, test failures or audit findings		[redacted]	

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

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-of-codes-of-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/forms-and-resources/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

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.

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

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

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