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Work Near Overhead Power Lines

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:	

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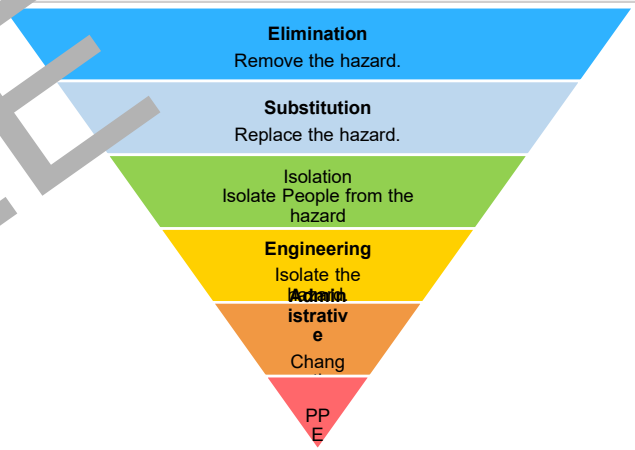
RISK MATRIX

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



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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.*

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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 Electrical Consultation	• Failure to identify and comply with WHS Act 2011, WHS Regulations 2011 and relevant electrical safety legislation and codes of practice for work near overhead power lines • Absence of a formal process to determine whether overhead lines are energised, voltage level, owner and exclusion zones • Lack of documented consultation with the electricity supply authority and/or asset owner before planning work near lines • No defined organisational policy on minimum approach distances and when power must be isolated, re-routed or mechanically protected • Fragmented responsibilities between PCBU, principal contractor, subcontractors and labo[illegible] without clear allocation of W[illegible] duties for electrical risks • Inadequate syste[illegible] when standards, codes, network operator requirements or legislation change	High	• Establish and approve a WHS electrical risk manage[illegible]ent procedure specifically addressing work near overhead power lines, referencing the WHS Act 20[illegible], WHS Regulation 2011, relevant state/territory Electrical Safety Acts/Regulations and applica[illegible] codes of practice (e.g. Safe Work Australia and jurisdictional guidance on work near overh[illegible] and underg[illegible]und assets) • Implement a formal pre-project electrical ris[illegible]eview[illegible]ocess that requires identification of all overhead lines from design drawings, Dial-Before-You-Di[illegible]efore You Dig Australia enquiries, electricity network plans and site inspections • Mandate written consultation [illegible] the network ope[illegible] asset owner for any work within prescribed approach distances[illegible]ing ob[illegible]ning written advice[illegible]n voltage, line configuration, exclusion zones, earthing arrange[illegible]nts and [illegible]olatio[illegible]equiremen[illegible] • Develop a c[illegible]porate stan[illegible]rd defini[illegible]mi[illegible]mum approach distances for all voltage ranges, aligned to legisla[illegible]e and [illegible]work o[illegible]rator require[illegible]ents, and embed these distances into project templates, proce[illegible]s and t[illegible]ni[illegible]g material • Crea[illegible]a[illegible]cumen[illegible]d decision-making framework (e.g. risk matrix and flowchart) that sets clear triggers for con[illegible]l o[illegible]ns suc[illegible]s power isolation, line relocation, mechanical protection, use of spotters or re-desig[illegible]to e[illegible]inate w[illegible]rk near lines • D[illegible]ine a[illegible]d doc[illegible]ment WHS roles and responsibilities for managing risks associated with overhead powe[illegible]s, including PCBU officers, project managers, supervisors, HSEQ personnel, subcontractor [illegible]anagers and principal contractors • I[illegible]orporate legal and standards compliance checks for overhead power line work into the organisation's WHS legal register and annual WHS legal compliance audit program • Require that contracts and project initiation documents explicitly reference compliance with overhead power line requirements and codes of practice, including evidence of consultation with electricity supply authorities • Implement change management and document control processes to ensure that any changes in legislation, network operator rules or codes of practice are promptly reviewed, approved and communicated to relevant managers and supervisors • Conduct periodic internal audits focused specifically on electrical and overhead line compliance, including verification of permits, correspondence with asset owners and adherence to exclusion zones	Medium
2. Planning, Design and Engineering Controls	• Project planning that does not consider the location and voltage of overhead power lines during concept and design stages • Reliance on informal site knowledge rather than survey, plans or as-built information to locate overhead assets • Failure to eliminate or minimise exposure by redesigning work methods,	High	• Embed mandatory overhead service identification into the early design and planning process, requiring designers and project planners to obtain and review current network operator drawings, aerial imagery and survey data • Implement a formal design risk management process (in line with WHS Regulation duties of designers) that specifically addresses elimination or minimisation of work near overhead power lines through options such as undergrounding, relocating lines, re-positioning structures, or choosing alternative construction methodologies	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
	equipment type, access routes or temporary works layouts • Inadequate engineering assessment of plant reach, load swing, crane radii, tip heights and potential for inadvertent encroachment into exclusion zones • Poor integration of overhead power line constraints into traffic management, delivery scheduling and material storage layouts • Temporary works or scaffolding design that does not account for conductive components, potential line sag, wind effects or future modifications • No requirement to reassess risks when site conditions change (e.g. new lines installed, line sag due to heat, re-routing, construction staging changes)		• Require engineering assessments for all mobile plant or equipment operating near lines, including calculation of maximum possible reach, articulation, swing radius and potential for uncontrolled movement under foreseeable fault conditions • Develop and enforce design standards that pr[illegible]it locating laydown areas, material stockpiles, waste skips, loading zones, parking or site offices [illegible]in defined exclusion or buffer zones beneath or adjacent to overhead lines • Integrate overhead power line constraints int[illegible]and pedestrian management plans, including approved access routes for trucks, cranes, eleva[illegible]d work platfo[illegible]s and concrete pumps that prevent encroachment • Mandate that scaffold and temp[illegible]ary structure desi[illegible]n the vicinity of overhead lines are certified by a competent engine[illegible] with [illegible]plicit c[illegible]sideration of required clearances, conductive components, potential line movement[illegible]d modifica[illegible]on cor[illegible]ls • Establish a p[illegible]ning requ[illegible]ement that [illegible]significant design or staging change triggers a review of overh[illegible]d powe[illegible]e ris[illegible]and necessary redesign of access, plant selection and sequencing • Ensu[illegible]sign do[illegible]mentation, layout drawings and lift plans clearly depict overhead line locations, voltage [illegible]as[illegible]s and [illegible]go zones, and are integrated into site set-out and digital systems (e.g. BIM, GIS, project [illegible]anag[illegible]ment p[illegible]orms) [illegible]clude [illegible]onser[illegible]ive allowances for line sag, wind sway and survey tolerances in design clearances, usin[illegible]d[illegible]ned organisational safety margin above the legal minimums Require a documented sign-off by the project manager and HSEQ representative that overhead power li[illegible]risks have been reviewed and controlled at the planning and design stage before mobilisation	
3. Procurement of Plant, Equipment and Services	• Procurement of unsuit[illegible]ant with excessive reach, bo[illegible]length or uncontrolled articu[illegible]on for work near overhead lines • Hiring subcontractors and crane/pla[illegible] suppliers without verifying their syst[illegible]s for working near power lines and[illegible] compliance with relevant st[illegible]ards • Lack of specification for non-conductive or insulated tools, ladders and equipment in environments with overhead electrical hazards • Inadequate consideration of safety features such as slew/height limiting devices, proximity warning systems and interlocks in procurement decisions • Absence of contractual requirements for suppliers to provide documentation such as lift studies, engineering certifications and maintenance records relevant to overhead line risks	High	• Develop and enforce procurement standards that specify technical and safety requirements for plant used near overhead power lines, including maximum operating height/reach constraints appropriate to typical site conditions • Require that all plant and equipment procured or hired for use near overhead lines be fitted, where reasonably practicable, with engineering controls such as boom/slew limiting devices, height limiters, rated capacity indicators and motion cut-out features • Include in procurement specifications the mandatory provision of non-conductive ladders, insulated hand tools, line-rated rescue equipment and dielectric personal protective equipment where relevant • Implement a pre-qualification process for crane companies, plant hire firms and specialist contractors that assesses their documented procedures, training, maintenance programs and incident history in relation to work near electrical assets • Embed contractual clauses requiring suppliers to comply with applicable Australian Standards (e.g. AS 2550 series, AS/NZS 3000 where relevant) and network operator rules regarding work in proximity to overhead lines • Mandate that plant suppliers provide up-to-date logbooks, maintenance records, load charts, technical manuals and evidence of inspections, with specific attention to controls that help prevent contact with overhead lines	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
	• Cost-driven purchasing that does not account for the additional risk control features necessary when working in proximity to high voltage infrastructure		• Require that tender evaluations explicitly consider electrical risk control capability (such as experience with de-energised work, line shields, or specialised insulated equipment) as a weighted criterion, not solely price and availability • Standardise procurement documentation templates so that any anticipated operation near overhead lines automatically triggers an engineering and HSEQ review before awarding contracts • Ensure hired plant agreements specify responsibilities for setting and verifying electronic limiters, alarms and safety systems related to height and slew near overhead assets • Periodically review supplier performance and incident data to inform preferred supplier status for those demonstrating robust systems for managing overhead electrical hazards	
4. Competency, Training and Awareness	• Inadequate management understanding of legal duties and consequences associated with electrical risks and overhead power lines • Plant operators, doggers, riggers, spotters and supervisors lacking competency in recognising overhead electrical hazards and exclusion zones • New starters, labour hire workers and visitors not informed about overhead lines and site-specific electrical controls • No formal training in emergency response to electrical incidents, including step-potential risks and safe evacuation techniques • Over-reliance on spotters who may be untrained, distracted or unsure of their authority to stop work • Training materials that are generic, out-of-date or not contextualised to the specific site conditions and voltage levels	High	[redacted]	Medium

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			[redacted]	
5. Site Layout, Signage and Physical Delineation	• Overhead power lines not clearly identified or marked on site, leading to normalisation and complacency • Inadequate or inconsistent signage warning of overhead electrical hazards at site access points and critical work areas • Lack of physical barriers, line markings or exclusion zone demarcation to prevent plant encroachment • Poor lighting during early morning, evening or night work that obscures visibility of lines and signage • Movement of materials, scaffolds or temporary structures i[redacted]previously controlled zones wi[redacted]ut updating markings and sign[redacted]e • Site rearrangemen[redacted]relocatio[redacted]f amenities or storage areas) graduall[redacted] encroaching on previously defined[redacted]-go areas	High	[redacted]	Low
6. Systems of Work, Permits and Supervision	• Absence of a formalised permit-to-work or authorisation system for work near overhead power lines • Inconsistent or informal work planning that relies on verbal briefings rather than documented risk assessments and method controls	High	[redacted]	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
	• Insufficient supervision of high-risk activities near lines, particularly during critical tasks such as craning, concrete pumping or steel erection • Lack of clear criteria for when work must cease due to environmental conditions such as high winds, poor visibility or storms • Fragmented coordination between multiple contractors working simultaneously near overhead infrastructure • Failure to review and update risk assessments and work methods when scope, equipment or conditions change		[redacted]	
7. Contractor and Subcontractor Management	• Engagement of contractors who lac robust systems for managing overh d electrical risks • Poor communication of site-specific overhead power line hazards and controls to subcontractors and labour hire personnel • Inconsistent standards between principal contractor and subcontractors regarding exclusion zones, spotter use and permit systems • Commercial pressures on subcontractors leading to shortcuts or non-compliance with agreed controls • Insufficient monitoring of contractor performance and reliance on	High	[redacted]	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
	self-regulation for high-risk electrical work • Ambiguity over who holds primary responsibility for coordinating control measures when multiple PCBUs share the same work area		[redacted]	
8. Monitoring, Inspection, and Maintenance of Controls	• Degradation or failure of control measures over time, such as damaged signage, faded markings or malfunctioning plant safety systems • Infrequent or informal inspections leading to undetected encroachment risks or changed line co[redacted] • Failure to identify [redacted]vironmental changes affecting [redacted]e clearance[redacted]uch as ground level ch[redacted] [redacted]pling[redacted] vegetation growth • Lack of verification that engineeri[redacted] controls (limiters, alarms, [redacted]ks) are operational and correctly set for the site conditions • Inadequate maintenance of plant used near overhead lines, increasing likelihood of unplanned movements or loss of control • No systematic review to confirm that de-energisation, relocation or shielding arrangements requested from the network operator remain in place and effective	High	[redacted]	Low

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			[redacted]	
9. Incident Reporting, Investigation and Continuous Improvement	• Under-reporting of near misses and minor contact incidents with overhead lines, leading to missed learning opportunities • Superficial investigations that focus on individual errors rather than systemic or organisational causes • Lack of structured process to incorporate investigation findings into procedures, training and design standards • Failure to share relevant findings across multiple projects or business units where similar overhead line exposures exist • Management not tracking leading indicators related to electrical risk (e.g. near misses, permit breaches) and therefore not acting early • Workers perceiving negative consequences for reporting overhead line hazards or near misses, discouraging open communication	Medium	[redacted]	Low
10. Emergency Preparedness and	• Workers and supervisors not knowing how to respond safely to contact with	High		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
Response for Electrical Incidents	overhead power lines, increasing risk of secondary injuries or fatalities • Emergency plans that do not address specific hazards of electrical incidents, such as step-potential and delayed line isolation • Lack of coordination with the electricity network operator and emergency services regarding site access and isolation procedures • Inadequate availability or maintenance of emergency equipment (e.g. communication devices, rescue kits, first aid supplies) appropriate to electrical incidents • Confusion over who has authority to stop work and initiate emergency response when overhead line contact or arcing is suspected • No post-incident process to verify structural and electrical integrity of affected plant, structures or lines befor resuming work		[redacted]	

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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

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