General Maintenance Hydraulic Services			
Business Name:		ABN:	
Business Address:			
Contact Person:	Phone:	Email:	

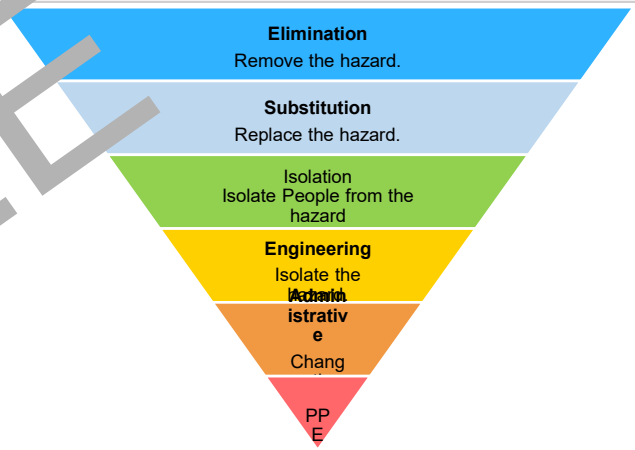
THIS RISK ASSESSMENT IS APPROVED BY THE PCBU OF THE PROJECT		
Under the Work Health and Safety Regulation (WHS Regulation), a person conducting a business or undertaking (PCBU) is required to ensure that a RISK ASSESSMENT is prepared before the proposed work starts.		
Full Name:		
Signature:	Title:	Date:

CLIENT OR PRINCIPAL CONTRACTOR DETAILS	SCOPE OF WORKS
Client:	
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, WHS Duties and PCBU Oversight	• Lack of clear allocation of WHS duties for hydraulic maintenance activities leading to gaps in oversight and decision-making • Failure of officers to exercise due diligence in relation to hydraulic power pack risks (design, inspection, maintenance, competency) • Inadequate WHS policy framework to address high-risk plant and pressurised hydraulic systems • Poor integration of hydraulic safety requirements into the organisation's WHS management system and risk register • Inadequate consultation with workers and health and safety representatives (HSRs) about hydraulic system risks and changes • Failure to monitor compliance with WHS Act 2011 and WHS Regulation plant provisions for hydraulic equipment • Insufficient contract management arrangements for external hydraulic service providers	High	• Establish and maintain a WHS governance framework that explicitly covers hydraulic plant and equipment, assigning PCBU, officer, management and supervisory responsibilities in line with WHS Act 2011 • Ensure officers exercise due diligence by regularly reviewing information on hydraulic safety (standards, alerts, OEM bulletins, regulator guidance) and seeking competent advice where required • Embed hydraulic safety into the WHS policy and risk management procedures, including clear references to plant, pressure systems and energy isolation requirements under WHS Regulation • Maintain an organisational risk register that specifically includes hydraulic power pack and hydraulic services risks, with identified owners, review dates and action tracking • Develop and implement a documented consultation procedure requiring engagement with workers and HSRs when introducing, modifying or decommissioning hydraulic systems or maintenance processes • Implement a formal contractor management procedure that includes pre-qualification of hydraulic service providers, verification of licences/competencies, WHS performance criteria and induction to site-specific hydraulic hazards • Schedule periodic internal audits and management reviews focused on hydraulic plant compliance (e.g. guarding, isolation, pressure ratings, inspection regimes) and close out findings in a controlled action system • Ensure procurement, engineering, operations and maintenance functions are included in WHS planning for hydraulic systems, so design, use and servicing risks are addressed holistically	Medium
2. Design, Engineering and Change Management of Hydraulic Systems	• Hydraulic power packs and associated systems not designed, verified or selected in accordance with relevant Australian Standards and WHS Regulation plant requirements • Lack of engineering assessment of pressure ratings, hose routing, system redundancy and failure modes leading to potential high-pressure fluid injection or catastrophic release • Inadequate guarding or separation distances around moving parts, rotating shafts, fans and hot surfaces within the power pack assembly • No formal management of change (MOC) process when hydraulic circuits,	High	• Specify that hydraulic power packs and systems must be designed, manufactured and installed in compliance with relevant Australian Standards (e.g. AS 2671, AS 4024 series for machinery safety, applicable pressure equipment standards) and WHS Regulation plant provisions • Engage competent engineers or specialist hydraulic designers for system design, verification of pressure ratings, relief valve sizing, hose selection, and analysis of potential failure modes and effects • Ensure all new or significantly modified hydraulic power packs undergo a formal plant risk assessment prior to commissioning, addressing crushing, shearing, entanglement, injection, noise, heat and stored-energy hazards • Incorporate guarding, physical barriers, lockable panels and safe access platforms into the design to prevent contact with moving parts, hot surfaces and high-pressure lines, and document these features in plant drawings • Integrate emergency stop devices, interlocks, and control system safety functions with the broader plant control system, ensuring de-energisation of the hydraulic power pack and dissipation of stored energy where reasonably practicable	Medium

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	pressure settings, components or control logic are modified • Poor integration of emergency stop, interlocks and fail-safe functions with existing plant control systems • Insufficient consideration of noise, vibration and heat management at design stage impacting worker health and comfort • Inaccessible components, isolation points and test ports leading to unsafe maintenance access arrangements		• Implement a documented management of change (MOC) procedure for any hydraulic system modification, requiring risk assessment, engineering review, update of drawings and schematics, and re-validation prior to use • Design in provisions for safe maintenance incl[illegible]g isolation valves, lockable energy isolation points, test manifolds, flushing points and sufficient [illegible]rking space for service activities • Address environmental and health factors a[illegible]esign [illegible]ge (noise enclosures, vibration dampening, ventilation for heat rejection, spill containment [illegible]nding) and record design assumptions for future reference	
3. Procurement, Commissioning and Decommissioning of Hydraulic Power Packs	• Procurement of hydraulic power packs and components that are not suitable for the intended pressure, duty cycle, fluid type or environmental conditions • Absence of WHS and engineering input during procurement leading to lifecycle safety issues, difficult access and non-standard components • Inadequate pre-deliver[illegible]ification of documentation, conf[illegible]ity, test certificates and saf[illegible]y features • Poorly planned c[illegible]missi[illegible]g le[illegible]g to uncontrolled pressu[illegible]ation, undetected leaks or malfunctioning safety controls • Lack of structured decommissioning and disposal processes for obsolete hydraulic equipment and contaminated fluids	[illegible]igh	• Dev[illegible] and a[illegible]y a[illegible]ocurement standard for hydraulic power packs and related components that specif[illegible]fety, r[illegible]ility, pressure rating, noise, environmental and maintenance requirements • Requ[illegible] su[illegible]lier pr[illegible]ualification, including demonstration of compliance with WHS legislation, relevant Australi[illegible] Sta[illegible]lards, p[illegible]vision of OEM manuals, safety data for hydraulic fluids and test certification for [illegible]essure [illegible]omp[illegible]ents • Inv[illegible]HS, engineering and maintenance personnel in specification development and technical valuatio[illegible]f hydraulic equipment prior to purchase • [illegible]e a formal receiving inspection checklist to verify that delivered hydraulic power packs conform to specifications, include all safety features (guards, isolation points, emergency stops, labelling) and are accompanied by required documentation • Implement a controlled commissioning procedure that includes function testing of safety circuits, interlocks, pressure relief devices and alarms, and records baseline operating parameters for future reference • Ensure commissioning plans consider staged pressurisation, verification for leaks, hot surfaces, noise levels and integration with existing plant control systems before hand-over to operations • Establish decommissioning procedures for hydraulic systems, including depressurisation, safe fluid removal, segregation of contaminated waste, and documentation of plant status changes in the asset register • Maintain a centralised plant register capturing all hydraulic power packs, with unique IDs, commissioning dates, design data, and decommissioning records	Medium
4. Training, Competency and Authorisation	• Maintenance personnel working on hydraulic systems without adequate theoretical and practical knowledge of high-pressure hydraulics • Supervisors and planners lacking understanding of hydraulic hazards, leading to inadequate task planning and risk control selection	High	[redacted]	Medium

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	• No formal competency framework for hydraulic maintenance, resulting in inconsistent skills and unsafe practices • Lack of specific training on hydraulic power pack OEM instructions, system schematics and isolation procedures • Inadequate refresher training leading to skill fade and complacency • No formal authorisation process to control who can inspect, adjust or modify hydraulic systems		[redacted]	
5. Hydraulic Energy Isolation, Lockout and Stored Energy Management	• Uncontrolled release of hydraulic energy due to inadequate isolation, lockout or dissipation procedures durin maintenance and inspection • Residual stored pres accumulators, cylin s, hoses or line sections not identi d or managed • Bypassing or defe ation devices or interlocks for convenience r due to production pressure • Inconsistent application lockout/tagout (LOTO) for multi-energy sources (electrical supply to power pack, hydraulic pressure, potential energy in raised equipment) • Lack of verification (try-out) steps to confirm absence of pressure before starting maintenance	High	[redacted]	Low
6. Preventive Maintenance,	• Absence of a structured preventive maintenance (PM) program for hydraulic	High		Medium

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Inspection and Condition Monitoring	power packs leading to component failures and sudden loss of containment • Degraded hoses, fittings and seals not identified due to infrequent or informal inspections • Contaminated hydraulic fluid causing accelerated wear, overheating or unpredictable system behaviour • Maintenance tasks performed reactively under time pressure, increasing the likelihood of risk-taking and errors • Inadequate documentation of defects and corrective actions creating blind spots in asset condition • Failure to recognise early warning signs such as unusual noise, vibration, temperature rises or slow response		[redacted]	
7. Documentation, Procedures and Technical Information Management	• Maintenance wo[illegible]n hydr[illegible]er packs performed wi[illegible]rrent procedures, schematics or OEM manuals • Out-of-date or conflicting [illegible]raulic circuit drawings leading to incorrect isolation, misconnections or unsafe modifications • Procedures that are overly generic and do not cover specific risks associated with high-pressure hydraulics and injection injury • Poor document control resulting in multiple versions of critical information in circulation • Inadequate visibility of safety alerts, incident learnings and OEM notices relating to hydraulic components	Medium	[redacted]	Low

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			[redacted]	
8. Contractor and Supplier Management for Hydraulic Services	• External hydraulic technicians operating under different safety standards or practices that do not align with site WHS requirements • Insufficient verification of contractor competency, licences and insurances for high-risk hydraulic work • Poor communication of site-specific hydraulic hazards, isolation rules and emergency procedures to contractors • Uncontrolled introduction of non-conforming parts, fluids or temporary modifications by suppliers o contractors • Lack of oversight of [illegible] work quality leading to la[illegible]t defects in hydraulic power pa[illegible]s	High	[redacted]	Medium
9. Environmental Management, Spills and Waste Handling	• Uncontrolled release of hydraulic fluid from power packs resulting in environmental contamination of soil, drains or waterways • Inadequate bunding and containment around stationary power packs leading to spread of leaks • Poor management of used hydraulic oil, filters and absorbents creating fire, slip and environmental hazards • Use of incorrect or incompatible hydraulic fluids without assessment of environmental and health impacts	Medium	[redacted]	Low

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	• Failure to comply with regulatory requirements for hazardous waste storage, transport and disposal		[redacted]	
10. Emergency Preparedness, Incident Response and Reporting	• Delayed or ineffective response to hydraulic fluid leaks, hose bursts or power pack failures • Lack of preparedness for high-pressure injection injuries, burns or contact with hot surfaces from hydraulic equipment • Inadequate emergency isolation arrangements for hydraulic power pack, especially where remotely located • Under-reporting of near misses, minor leaks and precursor events that could prevent major incidents • Poor post-incident investigation quality leading to recurrence of similar hydraulic failures	[redacted]	[redacted]	Medium
11. Occupational Health, Exposure and Human Factors	• Worker exposure to high-pressure hydraulic fluid mist, aerosols or vapours in poorly ventilated power pack rooms • Heat, noise and vibration from hydraulic power packs contributing to fatigue, hearing loss or discomfort • Slips, trips and falls caused by oil residues, poor housekeeping or obstructed access around power packs	Medium	[redacted]	Low

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	• Manual handling risks associated with removal and replacement of heavy components (pumps, motors, reservoirs, accumulators) • Cognitive overload, fatigue or time pressure leading to incorrect valve operation, mis-isolation or overlooking critical checks		[redacted]	
12. Monitoring, Audit and Continuous Improvement of Hydraulic Safety	• Lack of systematic monitoring of the effectiveness of hydraulic safety contr • Failure to identify negative trends in leaks, hose failures, near misses or component changes • Inconsistent audit g of compliance with hydraulic isola n, maint and documentation s • Limited management visibility of hydraulic-related risks and perfor ce indicators	Medium	[redacted]	Low

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