Fuel Storage And Handling

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:

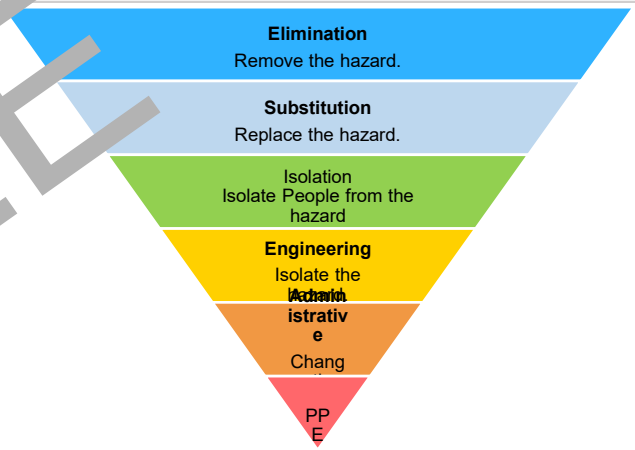
CLIENT OR PRINCIPAL CONTRACTOR DETAILS

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, WHS Duties and Legal Compliance	• Failure to identify and comply with WHS Act 2011, WHS Regulations, dangerous goods, and environmental legislation relevant to fuel storage and handling • Lack of clear allocation of WHS duties for fuel storage, transfer and handling across PCBUs, officers, workers and contractors • Inadequate consultation, cooperation and coordination between PCBUs involved in installation, repair, removal, transport and refuelling activities • No systematic process for keeping up to date with changes in standards (e.g. AS 1940 for storage and handling of flammable and combustible liquids, electrical and fire protection standards) • Insufficient or unclear policies on fuel storage, hazardous chemicals management, hot work, confined spaces, contractor management and incident reporting • Poor integration of fuel storage and handling risks into the organisation's WHS management system and registers	High	• Establish and maintain a documented Fuel Storage and Handling Policy that references WHS Act 2011, WHS Regulations, relevant dangerous goods and environmental legislation, and applicable Australian Standards (e.g. AS 1940, AS/NZS 60079, AS 1657, AS 2809) • Define and document WHS roles, responsibilities and accountabilities for officers, managers, supervisors, workers and contractors in relation to fuel storage tank installation, diesel and petrol handling, fuel transfer, on-site refuelling and associated maintenance • Implement a formal legal and standards compliance register covering diesel, petrol, oils, lubricants, LPG and other flammable and combustible liquids, with scheduled reviews (at least annually) by a competent person • Integrate fuel-related hazards into the corporate WHS risk management procedure, ensuring identification, assessment, control and review of risks for all lifecycle stages (design, procurement, installation, operation, repair, removal, decommissioning and transport) • Develop and enforce overarching procedures for hazardous chemicals management, hot work, confined space entry, working at heights, and contractor control that specifically reference fuel storage and handling scenarios • Ensure PCBUs involved in tank installation, repair, removal, fuel delivery, and on-site refuelling have written WHS interface agreements describing how duties are shared and coordinated (permits, supervision, isolations, emergency response, incident reporting) • Establish WHS performance indicators related to fuel systems (e.g. number of fuel-related incidents, spills, non-conformances, overdue inspections) and report these to officers and the WHS committee • Undertake regular management reviews of the fuel storage and handling system, including audit outcomes, incident trends and compliance gaps, with documented actions and timeframes	Medium
2. Design, Procurement and Installation of Fuel Storage Systems	• Selection of fuel tanks, piping and equipment that do not comply with Australian Standards or intended use (e.g. incorrect tank type for diesel vs petrol, lack of bunding or impact protection) • Poor layout and siting of tanks leading to fire and explosion risks, inadequate separation distances, vehicle impact exposure, and unsafe access for inspection and maintenance • Inadequate design of ventilation, electrical equipment and earthing/bonding around flammable liquids leading to ignition sources and static discharge risks	High	• Specify that all fuel storage tanks (above and below ground), pipework, pumps and associated equipment must be designed, manufactured and installed in accordance with AS 1940 and other relevant Australian Standards and codes, and verified by a competent person • Undertake a documented design risk assessment for proposed fuel storage and handling systems, addressing siting, segregation from ignition sources, traffic movement, access/egress, fire-fighting access and environmental protection requirements • Ensure procurement specifications require double-walled or appropriately bunded tanks, compliant overfill prevention devices, emergency shut-off valves, non-return valves and compatible fittings for diesel, petrol and lubricants • Design and document adequate secondary containment (bunds, curbing, drainage) sized for the largest tank or interconnected system plus rainfall allowance, with provisions for safe clean-out and disposal of contaminated liquids	Medium

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	• Lack of engineered overfill protection, leak detection, level monitoring and high-level alarms for fuel storage tanks • Insufficient containment capacity (bunding, spill systems) for expected volumes of diesel, petrol, oils and lubricants • Use of unsuitable or incompatible hoses, valves, seals and fittings increasing risk of leaks, failures and environmental contamination • Poor design consideration for future repair, tank removal, cleaning and safe isolation, creating unsafe work environments at later lifecycle stages		• Ensure all electrical equipment installed in hazardous areas for petrol and other flammable vapours is appropriately rated and certified, and that earthing and bonding arrangements are designed by a competent electrical engineer • Require installation contractors to be suitably qualified and pre-approved, with documented installation procedures, inspection and test plans, and commissioning records retained • Include design features that facilitate safe inspection, tank entry (if unavoidable), isolation, venting and future removal (e.g. access platforms with compliant handrails, lifting points, clear labelling and isolation points) • Implement a formal handover and commissioning process for new or modified fuel systems, including as-built drawings, compliance certificates, hazardous area classification documents and an updated risk assessment	
3. Fuel Storage Integrity, Inspection and Maintenance Systems	• Degradation, corrosion or physical damage to tanks, pipework, valves and hoses leading to leaks, spills, vapour release or catastrophic failure • Lack of a structured inspection, testing and preventative maintenance program for diesel, petrol and oil storage systems • Failure to detect early signs of tank or pipe failure, including underground leaks, compromised bunds or damaged protective coatings • Uncontrolled or unauthorised modifications and repairs to fuel systems compromising design integrity and compliance • Blocked vents, gauges or filters causing over-pressurisation, vacuum collapse or inaccurate level indication • Incomplete maintenance records making it difficult to demonstrate compliance or track emerging issues	High	• Develop and implement a documented inspection and preventative maintenance program for all fuel storage tanks, associated infrastructure and transfer equipment, based on manufacturer instructions, AS 1940 and risk level • Establish formal inspection schedules for above-ground and underground tanks, bund integrity, supports, anti-collision barriers, vents, gauges, filters, hoses, nozzles and connections, with checklists capturing defects and corrective actions • Engage competent specialists for periodic integrity testing of tanks and underground pipework (e.g. pressure testing, ultrasonic thickness testing, leak detection surveys) and document all results • Implement a change management procedure for any modifications or repairs to tanks, supports, pipework or refuelling equipment, requiring engineering review, updated drawings and where necessary revised hazardous area classification • Introduce a controlled system for hose and nozzle management, including identification, service life criteria, regular condition checks and timely replacement of damaged components • Maintain a centralised maintenance record system (digital or physical) for all fuel storage and handling assets, including asset register, inspection outcomes, defects, corrective actions and verification of completion • Ensure bunds and spill containment systems are inspected for cracks, erosion, vegetation, accumulated liquids and faulty drain valves, with timely rectification and documentation • Integrate fuel system integrity checks into site WHS inspections and audits, and escalate repeated or systemic maintenance issues through management review processes	Medium
4. Fuel Transfer, Transport and On-Site Refuelling Management	• Uncontrolled fuel transfer during loading, unloading or on-site refuelling resulting in overfills, spills, spray, vapour release or fire	High	[redacted]	Medium

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	• Inadequate systems for managing mobile fuel tanks, tankers and bowsers entering and operating on site • Lack of standardised procedures for diesel, petrol and lubricant deliveries, including isolation, grounding, supervision and communication • Unverified competency of drivers and operators performing fuel transport and on-site refuelling operations • Absence of controls for refuelling in high-risk areas (confined spaces, near ignition sources, poor ventilation, near watercourses) • Inadequate management of traffic interaction between fuel delivery vehicles, mobile plant and pedestrians		[redacted]	
5. Hazardous Chemicals and Inventory Management (Diesel, Petrol, Oils and Lubricants)	• Inaccurate or incomplete hazardous chemicals register for fuels and lubricants on site • Lack of current Safety Data Sheets (SDS) and inadequate communication of hazards associated with diesel, petrol, oils and lubricants • Over-stocking of fuels and flammable liquids beyond design or regulatory limits, increasing fire load and spill potential • Incompatible storage of fuels with other hazardous chemicals (oxidisers, corrosives, LPG cylinders, reactive substances) • Unlabelled or incorrectly labelled containers and decanting into non-approved vessels	High	[redacted]	Medium

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			[redacted]	
6. Contractor and Project Management for Tank Installation, Repair and Removal	• Use of contractors for fuel tank installation, repair, removal or cleaning without adequate WHS pre-qualification or verification of competency • Poorly controlled high-risk construction activities associated with tank works (excavations, crane lifts, hot work, confined space entry, working at heights, electrical work) • Inadequate site-specific risk assessments, Safe Work Method Statements (SWMS) or permits for tank installation, repair, decommissioning and removal projects • Lack of coordination between multiple contractors and site operations during tank projects, leading to exposure of other workers to fuel-related risks • Insufficient verification that tanks are cleaned, gas-freed and made safe for to hot work, transport, demolition	High	[redacted]	Medium
7. Training, Competency and Supervision for Fuel Handling	• Workers, supervisors and contractors handling fuels or overseeing fuel storage without adequate knowledge of hazards, controls and procedures • Inconsistent competency standards for personnel involved in diesel fuel handling, petrol use, oil and lubricant delivery, and fuel transfer operations • Inadequate supervision of high-risk fuel activities such as tank repairs, hot work near fuel systems, confined space work and on-site refuelling of mobile plant	High	[redacted]	Medium

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	• Failure to refresh training and update workers on changes to fuel systems, procedures, or regulatory requirements		[redacted]	
8. Emergency Preparedness, Fire Protection and Spill Response	• Inadequate planning and resourcing for fuel-related emergencies such as tank fires, vehicle impact, major spills, leaks or vapour releases • Lack of suitable fire protection systems, portable extinguishers and spill response equipment for the types and quantities of fuels stored and handled • Poorly understood or untested emergency response procedures for evacuation, first response actions and coordination with emergency services • Failure to plan for environmental impacts of fuel spills to soil, stormwater, waterways or neighbouring properties	High	[redacted]	Medium
9. Environmental and Community Impact Management	• Uncontrolled release of fuel to soil, groundwater or stormwater causing contamination and long-term environmental harm	High	[redacted]	Medium

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	• Odours and vapours from fuel storage and transfer impacting workers, neighbours or the public • Noise, traffic and visual impacts from fuel deliveries, tank installation or removal projects affecting nearby communities • Failure to meet environmental licence conditions, planning approvals or contamination reporting obligations		[redacted]	
10. Documentation, Monitoring, Auditing and Continuous Improvement	• Inadequate or ou[redacted]ated documentation for fuel storage an[redacted]andlin[redacted] leading to inconsiste[redacted]ctices and unmanaged risks • Lack of systematic moni[redacted] review of the effectiveness o[redacted] fuel-related controls and WHS performance • Failure to learn from incidents, near misses, audits and changes in legislation or standards • Poor record-keeping preventing the organisation from demonstrating compliance with WHS Act 2011 and associated regulations	Medium	[redacted]	Low

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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