

Refuelling Of Plant

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

THIS RISK ASSESSMENT IS APPROVED BY THE PCBU ON THIS 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:	
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.
3H	Review and approve additional controls before task starts. Senior supervisor sign-off needed.
2M	Ensure all nominated controls are in place and effective. 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 Risk Management Framework	<ul style="list-style-type: none"> Lack of a documented WHS risk management procedure specific to refuelling of plant, buses and bulk tanks, leading to inconsistent controls across sites Officers and PCBUs not fully understanding or discharging their due diligence obligations under the WHS Act 2011 in relation to hazardous chemicals and plant Inadequate consultation with workers and Health and Safety Representatives (HSRs) about refuelling risks and proposed controls No formal process for reviewing refuelling incidents, near misses or audit findings, resulting in systemic issues persisting Poor integration of refuelling hazards into the broader organisational WHS Management System (WHSMS) and risk register 	High	<ul style="list-style-type: none"> Develop and maintain a documented WHS risk management procedure that explicitly covers refuelling of all plant, buses and bulk fuel tanks, aligned with the WHS Act 2011, WHS Regulation and relevant Codes of Practice (e.g. Managing Risks of Hazardous Chemicals in the Workplace) Establish a WHS governance structure that assigns clear accountability for managing refuelling risks, including defined roles for officers, managers, supervisors and workers Maintain a corporate risk register that specifically covers refuelling activities (on-site, mobile bowzers and third-party service stations) and ensures risks are reviewed at least annually or following significant change or incident Implement a formal consultation process with workers and HSRs when developing or reviewing refuelling policies, procedures and facilities, and document outcomes and agreed actions Embed refuelling requirements and responsibilities into the WHS policy, safe work policies, and site-specific WHS plans so they are clearly communicated and enforceable Introduce a periodic management review (e.g. annually) of refuelling risks and controls, including analysis of incident trends, audit results and corrective action closure rates Ensure due diligence training for officers includes specific coverage of hazardous chemical (fuel) obligations and the organisational controls required for safe refuelling operations 	Medium
2. Fuel Procurement, Storage and Supply Chain Management	<ul style="list-style-type: none"> Selection of fuel suppliers without verifying compliance with Australian Standards and WHS legislation for transport and delivery of hazardous chemicals Inadequate fuel quality control leading to contamination that may cause engine malfunction or plant failure during operation Poorly designed or non-compliant bulk storage tanks and fuel systems increasing the risk of leaks, spills, fire or explosion Lack of formal agreements with suppliers regarding delivery procedures, emergency response, and site safety requirements during tank refuelling Inadequate systems for monitoring fuel inventory, leading to ad hoc deliveries 	High	<ul style="list-style-type: none"> Implement a formal fuel procurement policy that requires selection of suppliers who can demonstrate compliance with WHS laws, Dangerous Goods and hazardous chemicals requirements, and relevant Australian Standards (e.g. AS 1940 for storage and handling of flammable and combustible liquids) Include WHS and environmental performance criteria in supplier prequalification and contracts, including incident reporting, emergency response coordination and compliance with site-specific refuelling rules Specify technical and safety requirements for bulk storage tanks, bowzers and transfer equipment in procurement documents, ensuring suitability for the types of plant and buses being refuelled Require suppliers to provide Safety Data Sheets (SDS) for all fuels, verify SDS currency, and integrate this information into the WHSMS and site emergency plans Develop inventory management processes and minimum stock levels to reduce the likelihood of last-minute or high-risk deliveries and refuelling activities under time pressure Require delivery contractors to follow a documented site induction, including tank refuelling procedures, no-go zones, traffic management and emergency contacts Periodically review supplier performance, including delivery safety, compliance with agreed procedures and any refuelling-related incidents or non-conformances 	Medium

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	and unsafe refuelling practices under time pressure			
3. Design and Layout of Refuelling Infrastructure and Traffic Management	<ul style="list-style-type: none"> Poorly designed refuelling areas leading to vehicle and plant interactions with pedestrians and other mobile plant Inadequate segregation of refuelling zones from workshop activities, bus passenger areas, public access or general traffic routes Insufficient ventilation or inappropriate location of refuelling points increasing the risk of vapour build-up and ignition sources Lack of dedicated spill containment, drainage control and bunding around fuel storage and refuelling points Inadequate lighting and signage at refuelling points, increasing the risk of refuelling errors, slips, trips and collisions during low light conditions 	High	<ul style="list-style-type: none"> Undertake a formal design risk assessment for all refuelling infrastructure, including plant refuelling bays, bus refuelling lanes and bulk tank refilling points, considering vehicle movements, pedestrian routes, and nearby activities Implement a traffic management plan that clearly defines one-way systems, speed limits, exclusion zones and designated parking or queuing areas for plant and buses awaiting refuelling Physically separate refuelling areas from pedestrian walkways, passenger loading areas and workshop workstations using hard line marking, bollards and controlled entry points Ensure refuelling areas are designed with adequate natural or mechanical ventilation, away from ignition sources, enclosed spaces and air intakes Provide engineered spill control features such as bunding, graded surfaces directing spills to collection points and isolation from stormwater drains, in line with environmental and dangerous goods requirements Install competent, well-maintained lighting, safety signage, ground markings and emergency equipment identification in refuelling zones, ensuring visibility in all expected operating conditions Regularly review site layout and traffic patterns (including bus routes and plant movements) to ensure refuelling areas remain fit for purpose as fleet size or operations change 	Medium
4. Refuelling Policies, Procedures and Safe Systems of Work	<ul style="list-style-type: none"> Absence of a unified organisational procedure for refuelling plant, buses and bulk tanks, leading to inconsistent practices across sites and shifts Procedures that focus only on operational steps and not on system level controls such as authorisation, supervision and isolation of ignition sources Inadequate consideration of different refuelling contexts, such as on-road bus refuelling at public service stations, on-site bowzers and mobile fuel trucks on remote sites Lack of clear rules regarding engine shutdown, occupants remaining on buses, and movement of other plant in refuelling zones Failure to address concurrent work (e.g. maintenance tasks or loading activities) occurring near refuelling operations 	High	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	Medium

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			[REDACTED]	
5. Training, Competency and Authorisation of Workers	<ul style="list-style-type: none"> Workers undertaking refuelling tasks without adequate induction, training or verification of competence for specific plant, buses and fuel systems Supervisors assuming competencies based on previous experience or licences without verifying understanding of site-specific refuelling procedures and emergency requirements Training that is one-off and classroom-only, with no ongoing refresher or competency assessment in the field Insufficient training for tank refuelling (bulk deliveries) including understanding of overfill protection, venting and communication with delivery drivers Inadequate awareness among workers of the health effects of exposure, vapours and manual handling risks associated with refuelling equipment 	High	[REDACTED]	Medium
6. Equipment Selection, Inspection, Maintenance and Reliability	<ul style="list-style-type: none"> Use of non-compliant or poorly specified refuelling equipment, hoses and nozzles for the types of plant in use Lack of a planned inspection and maintenance regime for fuel pumps, bowsers, tanks, automatic shut-off devices and spill containment systems Failure of level indicators, overfill protection or leak detection systems leading to undetected spills or tank overflows during refuelling Uncontrolled modifications or temporary repairs to refuelling equipment, increasing the risk of failure or ignition 	High	[REDACTED]	Medium

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	<ul style="list-style-type: none"> Poor compatibility between refuelling connectors and different plant or bus fuel inlets, leading to potential misfuelling or spills 		[REDACTED]	
7. Hazardous Chemicals Management and Documentation	<ul style="list-style-type: none"> Incomplete or outdated Safety Data Sheets (SDS) for fuels and associated products, leading to incorrect control measures and emergency response Failure to maintain a hazardous chemicals register that accurately captures all fuel storage locations, quantities and container types Insufficient labelling of tanks, pipework and dispensing equipment, creating risk of misidentification and incorrect handling Lack of clarity regarding segregation and compatibility of different hazardous chemicals stored near refuelling areas Poor recordkeeping regarding fuel volumes, deliveries and disposals, affecting regulatory compliance and incident investigation 	High	[REDACTED]	Medium
8. Emergency Preparedness, Spill Response and Fire Protection	<ul style="list-style-type: none"> Inadequate planning and preparation for spill response, resulting in delayed or ineffective control of fuel leaks during refuelling Insufficient or unsuitable fire protection systems (e.g. extinguishers, hydrants) for the type and volume of fuel stored and dispensed Workers not trained or drilled in emergency shutdown of refuelling equipment, spill containment and evacuation procedures Lack of integration between site emergency plans and external 	High	[REDACTED]	Medium

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	<p>emergency services for significant fuel spills, fires or exposures</p> <ul style="list-style-type: none"> Emergency equipment (spill kits, alarms, communication devices) not regularly inspected, maintained or clearly identified 		[REDACTED]	
9. Contractor, Visitor and Third-Party Interface Management	<ul style="list-style-type: none"> Fuel delivery drivers and maintenance contractors performing tank refuelling or equipment servicing without adequate induction into site-specific WHS and refuelling controls Bus drivers refuelling at public service stations where the organisation has limited control over the environment and other road users Poor communication between site supervisors and third-party contractors about simultaneous operations near refuelling areas Differences between contractor company procedures and the host site rules, leading to confusion and inconsistent controls Lack of oversight or verification that contractors comply with permit systems, traffic management plans and spill response expectations 	High	[REDACTED]	Medium
10. Monitoring, Reporting, Auditing and Continuous Improvement	<ul style="list-style-type: none"> Lack of systematic monitoring of refuelling practices, leading to normalisation of unsafe shortcuts or non-compliance with procedures Under-reporting of near misses, minor spills or equipment faults related to refuelling activities Infrequent or ineffective WHS inspections and audits of refuelling areas, meaning emerging risks are not identified 	Medium	[REDACTED]	Low

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	<ul style="list-style-type: none"> Failure to analyse incident data and trends related to refuelling of plant, buses and bulk tanks at an organisational level Corrective actions from incidents or audits not tracked to completion, resulting in recurrence of known issues 		<div style="background-color: black; height: 15px; width: 100%;"></div>	

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 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>

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 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-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) Regulation 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>

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>

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

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.