Shipping Container Handling and Twist Lock Operations

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:

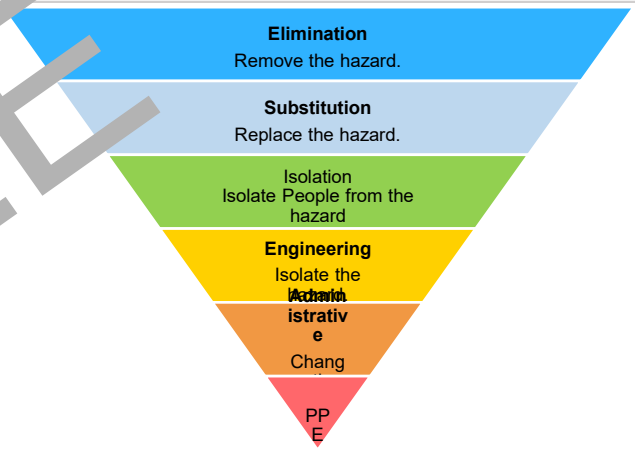
CLIENT OR PRINCIPAL CONTRACTOR DETAILS

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. WHS Governance, Roles and Legal Compliance	• Lack of clearly defined WHS responsibilities for container and twist lock operations under WHS Act 2011 and WHS Regulations • Inadequate consultation mechanisms with workers and Health and Safety Representatives (HSRs) on container handling risks • Failure to identify and comply with applicable Australian Standards, Marine Orders, port rules and Codes of Practice • No formal WHS objectives, KPIs or reporting specific to container handling and twist lock safety • Poor integration of contractor and labour hire WHS duties with principal PCBU obligations • Insufficient management oversight of high-risk activities such as working at heights on containers and manual twist lock release	4A	• Establish a documented WHS management system that explicitly covers shipping container handling, cargo inspection, opening containers, straddle carrier operation and twist lock operations, aligned with WHS Act 2011 and WHS Regulations • Define and document WHS roles, responsibilities and accountabilities for executives, managers, supervisors, operators, HSRs and contractors involved in container operations • Implement formal consultation processes (HSR forums, toolbox talks, safety committees) to review container and twist lock risks and proposed controls • Maintain a legal and standards register covering relevant Australian Standards (e.g. lifting, plant, PPE), port authority requirements, Stevedoring guidelines and Safe Work Australia materials • Set WHS performance indicators (e.g. twist lock related incidents, container handling near-misses, plant interactions) and review at senior management meetings • Ensure all PCBUs with overlapping duties (terminal operator, transport companies, labour hire, shipping line) have documented WHS interface agreements specifying responsibilities, information sharing and supervision arrangements • Conduct scheduled management system audits and compliance inspections focused on container and twist lock activities, with corrective actions tracked to completion	3H
2. Planning of Container Handling Operations and Traffic Management	• Unplanned container flow leading to congestion, rushed work and unsafe plant interactions • Absence of a documented traffic management plan for straddle carriers, reach stackers, forklifts and heavy vehicles • Uncontrolled interaction between pedestrians, inspectors, drivers and mobile plant • Poorly defined container stacking patterns creating instability and restricted visibility • Lack of coordination with shipping schedules, leading to fatigue, overtime and time pressure • Inadequate provision of designated inspection zones and twist lock release areas	4A	• Develop and maintain a documented container yard layout and operations plan, including designated loading/unloading, inspection, twist lock release and container opening areas • Implement a site-wide traffic management plan showing exclusion zones, pedestrian walkways, one-way systems, speed limits and straddle carrier operating corridors • Use physical controls (bollards, barriers, kerbs) and visual cues (line marking, signage, lighting) to separate pedestrians from plant and heavy vehicles • Introduce scheduling and slot management systems to smooth truck arrivals and container movements, reducing congestion and time pressure • Define safe stacking heights, patterns and segregation rules based on container type, weight and condition, with procedures for dealing with damaged or unstable stacks • Ensure planning meetings between operations, maintenance and supervisors to coordinate peak periods, ship turnaround times and labour allocation • Undertake periodic traffic risk assessments and vehicle movement observations, updating the traffic plan when layouts or equipment change	2M

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3. Container Receipt, Inspection and Condition Management	• Inadequate system for identifying damaged, misdeclared or overweight containers at receipt • Failure to detect structural defects (e.g. bent corner posts, damaged corner castings, compromised floors or roofs) • No process for flagging containers with suspected hazardous contents, contamination or fumigation • Inconsistent recording of container condition and damage, leading to unsafe handling decisions • Lack of criteria for quarantining unsafe containers or removing them from service • Insufficient inspection of twist locks, spreader bars and lifting lugs for wear and damage	4A	• Implement a standardised container inspection proc ure at point of receipt including checks for structural integrity, labelling, placarding, leaks an ours • Train designated inspection personnel in c ainer defect recognition, dangerous goods labelling and quarantine triggers • Introduce a digital inspection and reporting sy (app or tablet) to record container ID, condition, defects, photos and hold/quar ntine status • Develop clear acceptance an jection criteria fo ers, including weight limits, visible damage and suspected intern zards • Designate an ignpost q rantin nd inspe n zones that are physically separated from main traffic areas and st ing zones • Esta h proc ures f otifying shipping lines, customers and regulators when unsafe or non-comp contain e identified • Integ e pectio utputs into yard management and lifting systems so damaged or quarantined contain s ca ot be i dvertently scheduled for normal handling	2M
4. Hazardous Substances, Fumigation and Unknown Cargo Risks	• Lack of systems to identify containers with hazardous chemicals, fumigants or off-gassing products • Inadequate review of do entation (MSDS/SDS, manifes , DG declarations) befor container opening or inspection • No formal process f anaging suspected fumigated or contaminate containers • Insufficient atmospheric monitoring arrangements prior to entry or opening doors • Poor coordination with third-party fumigation contractors and biosecurity agencies • Inadequate emergency response planning for chemical exposures, leaks or toxic gases from containers	4A	[redacted]	2M
5. Plant and Equipment Selection, Design and Engineering Controls	• Use of plant not fit-for-purpose for lifting or transporting containers (e.g. under-rated forklifts, non-compliant spreaders)	4A	[redacted]	2M

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	• Lack of engineering controls to prevent dropped containers or twist lock failures • Inadequate guarding, access platforms and fall protection on straddle carriers and container handling equipment • Poor visibility from operator cabins leading to collisions and near-misses • Absence of failsafe systems on twist lock mechanisms and spreaders • Non-compliance of imported plant and equipment with Australian design and safety standards		[redacted]	
6. Maintenance, Inspection and Integrity of Plant and Twist Lock Systems	• Lack of scheduled maintenance leading to failure of straddle carriers, spreaders and twist locks • Inadequate pre-operational inspection systems for plant, lifting [illegible]nd twist locks • Use of damaged [illegible] worn twis[illegible] wires, chains and li[illegible]chments • Poor record keeping of inspections defects and repairs • Failure to promptly remove defective equipment from service • Maintenance work conducted without proper isolation and lockout procedures	4A	[redacted]	2M
7. Competency, Training and Licensing for Container and Straddle Operations	• Operators of straddle carriers, cranes and forklifts lacking appropriate HRW licences or verifiable competency • Inadequate training in twist lock mechanisms, failure modes and safe release methods	4A	[redacted]	2M

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	• Supervisors not trained in risk assessment and permit systems for container and twist lock operations • Insufficient understanding of load charts, container weight distribution and stability principles • Ad-hoc on-the-job training without structure or assessment leading to inconsistent practices • Lack of refresher training for infrequently used equipment or emergency procedures		[redacted]	
8. Work at Heights, Access and Manual Release of Twist Locks	• Workers accessing tops of containers or truck trailers without adequate fall protection systems • Improvised access (ladders, climbing on chassis or container frames) to reac twist locks • Manual release of mmed twist locks requiring high forc or awkward postures • Lack of engineere is, gant s or twist lock release stations • No formal system of work for m al twist lock release and wo ver live traffic lanes • Inadequate control of dropped objects from height during twist lock inspections and maintenance	4A	[redacted]	2M
9. Container Opening, Internal Inspection and Confined Space-Like Conditions	• Uncontrolled release of contents or shift of load when doors are opened • Exposure to low oxygen, toxic vapours or flammable atmospheres inside containers	4A	[redacted]	2M

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	• Lack of risk assessment for containers that may present confined space-like hazards • Inadequate ventilation methods prior to inspection or entry • No standard procedure for securing doors and restraining cargo during opening • Poor communication and supervision during high-risk container opening activities		[redacted]	
10. Traffic Interaction, Pedestrian Safety and Straddle Carrier Operation	• Uncontrolled interaction between straddle carriers, trucks, forklifts and pedestrians • Limited visibility from straddle carrier cabs, particularly in poor weather or low light • Inadequate rules for vehicle movements in container [redacted] and twist lock areas • Drivers or visitors [redacted] not familiar with site-specific traffic risks [redacted] and rules • Failure of communication systems between straddle carrier operators [redacted] and ground personnel • No formal monitoring or enforcement of speed limits and exclusion zones		[redacted]	2M
11. Fatigue, Rostering and Psychosocial Risk Management	• Extended shifts and irregular rostering associated with shipping schedules leading to fatigue • Insufficient rest breaks for operators of straddle carriers and container handling plant • High workload and time pressure creating stress and increased error rates	3H	[redacted]	2M

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	• Night shift work impacting alertness and decision making during high-risk tasks such as twist lock release • Poor reporting culture for fatigue, stress and near misses • Limited consideration of psychosocial hazards such as conflict, bullying or poor supervision in high-pressure environments		[redacted]	
12. Contractor, Labour Hire and Third-Party Interface Management	• Contractor and labour hire personnel not fully integrated into site WHS systems for container operations • Inconsistent safety standards and procedures between different PCBUs operating in the same terminal or yard • Inadequate pre-qualification of contractors for high-risk tasks such as twist lock maintenance or container repairs • Insufficient supervision and verificati of contractor compliance with site rules and permits • Poor sharing of infor ion about container hazards, maged equipment or restricted areas etween organisations • Gaps in incident reporting and investigation for contractor-involve events	3H	[redacted]	2M
13. Emergency Preparedness and Incident Management	• Lack of specific emergency plans for dropped containers, plant collisions and twist lock failures • Inadequate preparedness for chemical exposures, fumigant incidents or fires in containers • Poor access and egress routes for emergency services within container stacks and twist lock work areas • Insufficient training and drills for workers on container-related emergency scenarios	4A	[redacted]	2M

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	• Delayed or ineffective communication during emergencies due to unclear roles or systems • Inadequate post-incident investigation leading to repeat events		[redacted]	
14. Procedures, Documentation and Change Management	• Outdated or incomplete procedures for container handling, inspection and twist lock operations • Reliance on informal or undocumented practices and operator experience • Poor document control leading to multiple versions of procedures in circulation • Lack of formal change management when new plant, layouts or work methods are introduced • Insufficient worker input in the development and review of procedures • Procedures that are overly complex or not practical, leading to non-compliance	3H	[redacted]	1L
15. Safety Culture, Reporting and Continuous Improvement	• Low reporting of near misses and unsafe conditions in container and twist lock operations • Normalisation of deviance where shortcuts become accepted practice under time pressure • Perceived or actual management tolerance for risk-taking to meet schedules • Workers reluctant to speak up about unsafe containers, damaged twist locks or plant faults	3H	[redacted]	1L

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	• Inadequate use of incident, audit and inspection data to drive improvement • Lack of visible safety leadership from supervisors and managers in the yard environment		[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