

**Amusement Ride Maintenance**

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			<b>Elimination</b> Remove the hazard.	
LIKELY	2 MODERATE	3 HIGH	3 HIGH	4 ACUTE	4 ACUTE	4A ACUTE	DO NOT PROCEED	<b>Substitution</b> 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.	<b>Engineering</b> Isolate the hazard	
RARE	1 LOW	1 LOW	2 MODERATE	3 HIGH	3 HIGH	1L LOW	Monitor and keep records.	<b>Administrative</b> Change	
								<b>PPE</b>	

  

Risk Rating & Required Action:	
<b>4A</b>	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.
<b>3H</b>	Review and approve additional controls before task starts. Senior supervisor sign-off needed.
<b>2M</b>	Ensure all nominated controls are in place and effective. Proceed with caution; monitor conditions.
<b>1L</b>	Proceed, following standard operating procedures. Monitor and keep records.

  

Consequence Scale:			
Consequence	People (injury/illness)	Project / Assets	Compliance / Reputation
<b>Catastrophic</b>	Fatality or permanent total disability	project shutdown	Significant regulator intervention; criminal prosecution
<b>Major</b>	Serious injury/illness (hospital > 5 days)	critical delay	Improvement notice; major media coverage
<b>Moderate</b>	Medical-treatment injury; lost-time > 1 day	moderate delay	Minor breach; adverse client comment
<b>Minor</b>	First-aid only, no lost time	negligible delay	Isolated non-conformance
<b>Insignificant</b>	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, Legal Compliance and Duty of Care	<ul style="list-style-type: none"> <li>Lack of clear WHS governance for amusement ride and inflatable device maintenance, leading to unclear roles, accountabilities and decision-making authority</li> <li>Failure to identify and comply with WHS Act 2011, WHS Regulation (including amusement devices and plant provisions), Australian Standards (e.g. AS 3533 series) and relevant Codes of Practice</li> <li>Inadequate consultation mechanisms with workers, contractors, ride controllers, lane staff and HSRs regarding maintenance risks and system changes</li> <li>No systematic review of legal changes, manufacturer safety bulletins and regulator safety alerts for amusement devices and bowling pinsetters</li> <li>Inadequate due diligence by officers ensure resources and systems are in place for safe maintenance of inflatable amusement devices and bowling lane equipment</li> </ul>	High	<ul style="list-style-type: none"> <li>Establish and document a WHS governance framework that specifically covers amusement ride maintenance, inflatable amusement devices and bowling lane pinsetter systems, including an organisational chart highlighting WHS responsibilities and reporting lines</li> <li>Assign clear PCBU and officer responsibilities for plant safety, maintenance oversight, risk management and contractor management, referencing the WHS Act 2011 due diligence obligations</li> <li>Develop a legal and standards register covering applicable WHS legislation, WHS Regulation amusement device and plant provisions, relevant Australian Standards (e.g. AS 3533 Amusement Rides and Devices, electrical standards) and manufacturer requirements for both inflatable devices and bowling equipment</li> <li>Implement scheduled review processes (e.g. annually or when notified) for regulatory updates, Australian Standards revisions, manufacturer safety bulletins and regulator safety alerts, with documented actions and sign-off</li> <li>Create a WHS consultation procedure that requires engagement with workers, health and safety representatives, contractors and supervisors regarding proposed changes to maintenance systems, scheduling and controls</li> <li>Ensure officers receive periodic WHS due diligence briefings specific to high-risk amusement and mechanical equipment, including consequences of non-compliance and case studies from the industry</li> <li>Include governance and compliance performance indicators (e.g. completion of audits, close-out of actions, training coverage) in senior management WHS reporting</li> <li>Require formal WHS clauses in contracts and service level agreements with specialist maintenance providers, including evidence of competency, compliance with plant safety legislation and incident reporting duties</li> </ul>	Medium
2. Design, Engineering and Asset Integrity Management	<ul style="list-style-type: none"> <li>Use of inflatable amusement devices or bowling pinsetter equipment that are not designed, registered or certified in accordance with Australian requirements and relevant standards</li> <li>Lack of formal engineering assessment of modifications, repairs or non-standard set-ups to inflatables, anchors, blowers, electrical systems and lane machinery</li> <li>No documented design limitations (e.g. capacity, wind rating, gradient limits, operating pressures, energy isolation points) available to maintenance personnel and supervisors</li> <li>Inadequate management of safety-critical components such as inflatable fabrics, anchor points, blower units,</li> </ul>	High	<ul style="list-style-type: none"> <li>Maintain an asset register for all inflatable amusement devices and bowling pinsetter systems, including serial numbers, design registration status where required, engineering documentation, manufacturer manuals and inspection certificates</li> <li>Verify that all amusement rides and inflatables comply with AS 3533 and relevant plant registration and design registration requirements prior to use or major modification</li> <li>Implement a formal engineering change management process requiring competent engineer review and sign-off for any modifications, repairs that deviate from OEM guidance, or non-standard configurations of inflatables and lane machinery</li> <li>Document and prominently communicate key design and operating limits (e.g. maximum occupants, wind speed limits, minimum anchor requirements, clearance distances, lock-out requirements, pinch point locations) in maintenance procedures and signage at plant locations</li> <li>Establish a critical components list (e.g. anchoring systems, blower units, fans, electrical protection devices, guards, emergency stops, sensors, interlocks, control circuits) and enforce enhanced inspection and replacement regimes for these items</li> </ul>	Medium

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	<ul style="list-style-type: none"> <li>electrical cabling, guarding, sensors and interlocks on pinsetters</li> <li>Failure to consider maintainability and safe access in equipment selection and layout, resulting in unsafe maintenance practices being normalised</li> </ul>		<ul style="list-style-type: none"> <li>Ensure plant layout and positioning (e.g. blower placement, cable routing, access ladders to pinsetters, guard design) consider safe access for maintenance, with input from maintenance personnel and WHS representatives</li> <li>Require OEM or competent person certification that any retrofitted guarding, platforms, access hatches, or fall protection systems do not introduce new hazards and remain compliant with relevant standards</li> <li>Maintain configuration control by recording modifications, part substitutions and upgrades within asset records, including engineering approvals and updated schematics</li> </ul>	
3. Risk Management Systems and Planning	<ul style="list-style-type: none"> <li>Absence of a structured WHS risk management process specifically focused on the system and management aspects of maintaining inflatable amusement devices and bowling lane equipment</li> <li>Outdated or generic risk assessments that do not reflect site-specific layouts, current plant condition, staffing arrangements or new technologies</li> <li>Inadequate consideration of interaction between maintenance activities and operations (e.g. resetting pins while lanes are partially energised, inflatable set up near other attractions or vehicle)</li> <li>Failure to treat maintenance of amusement and mechanical equipment as high-risk plant, resulting in insufficient scrutiny of risk controls</li> <li>Poor planning of maintenance windows leading to rushed work, work outside normal hours or work during busy trading times, increasing the potential for errors and unsafe shortcuts</li> </ul>	High	<ul style="list-style-type: none"> <li>Implement a formal WHS risk management procedure aligned with the WHS Act and Regulation, with specific annexes for high-risk amusement devices, inflatables and bowling machinery maintenance</li> <li>Conduct and periodically review high-risk assessments that focus on system, management and interface risks rather than task-by-task instructions, ensuring they cover both inflatables and bowling lane equipment</li> <li>Require documented pre-maintenance planning that considers isolation requirements, staffing levels, access instructions, interaction with patrons and other workers, and potential emergency scenarios</li> <li>Integrate maintenance risk assessment outcomes into maintenance plans, contractor scopes of work and training content so that identified risks and controls are clearly communicated and implemented</li> <li>Classify inflatable amusement devices and bowling pinsetters as high-risk plant in the risk register, requiring enhanced review, approval and monitoring requirements for associated work</li> <li>Schedule planned maintenance during low-occupancy periods where practicable, with formal approval controls for any maintenance that must occur during operational hours or at night</li> <li>Introduce a formal change management process (MOC) requiring WHS risk assessment and consultation when introducing new devices, changing layouts, replacing equipment, or outsourcing maintenance</li> <li>Track and review implementation status of risk control actions (e.g. through an action register) with clear owners, due dates and verification of effectiveness</li> </ul>	Medium
4. Maintenance Strategy, Scheduling and Work Management	<ul style="list-style-type: none"> <li>No structured preventive maintenance program for inflatable amusement devices and bowling pinsetters, leading to reactive repairs and equipment failure during operation</li> <li>Inadequate scheduling of inspections for inflatables (e.g. fabric condition, stitching, anchors, blowers) and lane machinery (e.g. guards, belts, sensors, brakes, emergency stops)</li> <li>Informal work request processes resulting in missing, delayed or</li> </ul>	High	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	Medium

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	<p>duplicated maintenance tasks and unclear priorities</p> <ul style="list-style-type: none"> <li>• Over-reliance on a few key individuals' knowledge without documented maintenance standards, causing inconsistency and risk when they are unavailable</li> <li>• Maintenance activities for resetting pins and lane adjustments not clearly defined or controlled, leading to ad hoc interventions while equipment is energised or partially unguarded</li> </ul>		[REDACTED]	
5. Competency, Training and Supervision	<ul style="list-style-type: none"> <li>• Maintenance personnel and contractors working on inflatable devices and bowling pinsetters without verified competency in plant safety, lock-out/tag-out and specific equipment design</li> <li>• Inadequate induction for staff involved in or affected by maintenance activities, including lane staff who may enter machinery areas to reset pins or clear jams</li> <li>• Lack of training on specific hazards associated with inflatables (e.g. whip, air loss, anchor failure, electrical wires) and pinsetters (e.g. entanglement, crushing, stored energy, electrical hazards)</li> <li>• Insufficient supervision, particularly for new or young workers who may enter machinery zones or assist with inflatables set-up and checks</li> <li>• No formal process to assess ongoing competency or to address skill gaps when new equipment or technology is introduced</li> </ul>	High	[REDACTED]	Medium

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			[REDACTED]	
6. Safe Access, Guarding and Isolation Management	<ul style="list-style-type: none"> <li>Inadequate guarding or interlocking on bowling pinsetters, allowing access to moving parts during maintenance and manual reset of pins</li> <li>Poorly controlled entry to machinery rooms, plant decks or behind-lane areas, enabling unauthorised staff to access hazardous zones</li> <li>Lack of clearly defined isolation points and procedures for inflatables (e.g. blower power, electrical circuits) and lane machinery (e.g. main isolators, control circuits, stored energy)</li> <li>Bypassing or defeating safety devices (e.g. interlocks, guards, emergency stops) to perform maintenance or speed up pin resets</li> <li>Insufficient provision of safety infrastructure (e.g. handrails, steps, lighting) leading to unsafe climbing, overreaching or work in poor visibility</li> </ul>	High	[REDACTED]	Medium
7. Contractor and Supplier Management	<ul style="list-style-type: none"> <li>Reliance on external contractors for specialist maintenance without adequate vetting of their WHS systems and competencies</li> <li>Contractors working on inflatables and bowling machinery under informal arrangements with unclear allocation of WHS responsibilities between PCBUs</li> <li>Lack of coordination and communication between in-house staff and contractors performing maintenance, resulting in conflicting</li> </ul>	High	[REDACTED]	Medium

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	<p>actions or unexpected energisation of equipment</p> <ul style="list-style-type: none"> <li>• Use of suppliers for inflatable devices or parts that do not meet Australian standards or manufacturer specifications</li> <li>• No systematic review of contractor performance, incidents and near misses related to plant maintenance</li> </ul>		[REDACTED]	
8. Operational Interfaces: Patron, Public and Worker Interaction	<ul style="list-style-type: none"> <li>• Maintenance activities on inflatables or lane machinery being carried out while patrons or other workers are in close proximity, creating risks from inadvertent activation, falls or striking</li> <li>• Inadequate segregation between maintenance areas and public zones, particularly where inflatables are set up in multi-use spaces or lanes that are open during adjustment</li> <li>• Lane staff entering machinery or behind-pin areas to reset pins or clear blockages without proper controls or supervision</li> <li>• Failure to communicate maintenance status (e.g. equipment out of service, partial lane availability) leading to confusion and unsafe behaviours by patrons or staff</li> <li>• Insufficient crowd control and signage during testing of inflatables and machinery following maintenance</li> </ul>	High	[REDACTED]	Medium
9. Environmental and Site Conditions	<ul style="list-style-type: none"> <li>• Inflatable amusement devices operated or maintained without adequate</li> </ul>	High	[REDACTED]	Medium

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(Including Inflatable-Specific Factors)	<p>monitoring and management of environmental conditions such as wind, rain, extreme temperatures and ground stability</p> <ul style="list-style-type: none"> <li>• Maintenance activities performed on inflatables in unsuitable locations (e.g. slopes, near overhead services, close to vehicle routes) due to poor planning</li> <li>• Inadequate assessment of anchoring systems and ground conditions during maintenance or reconfiguration, leading to potential device movement or collapse in operation</li> <li>• Poor lighting, ventilation or noise control in machinery areas behind lanes affecting the safety of maintenance workers</li> <li>• Failure to control ignition sources and electrical risks around blowers and temporary power distribution for inflatables</li> </ul>		<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	
10. Emergency Preparedness, Incident Management and Learning	<ul style="list-style-type: none"> <li>• Lack of specific emergency procedures for incidents involving inflatables (e.g. rapid deflation, structural failure, blower or electrical faults) during or following maintenance</li> <li>• Inadequate emergency planning for entrapment, crushing or serious injury incidents in bowling machinery and pinsetters, particularly when maintenance staff are working alone or after hours</li> <li>• Poor incident reporting culture resulting in under-reporting of near misses, minor injuries and equipment failures related to maintenance activities</li> </ul>	High	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	Medium

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	<ul style="list-style-type: none"> <li>No systematic process to investigate maintenance-related incidents and implement corrective actions at a system and management level</li> <li>Failure to rehearse and test emergency plans, leading to confusion and delays in real events</li> </ul>		<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/lis>

**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.