

Drone Safety

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 for the task parts. 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 & Regulatory Compliance	<ul style="list-style-type: none"> Lack of clear organisational accountability for drone operations and WHS obligations Non-compliance with Civil Aviation Safety Authority (CASA) regulations and WHS Act 2011 duties Inadequate integration of drone safety into existing WHS management system Failure to consult workers and PCBUs involved in drone operations (e.g. farming contractors, media crews) No process to monitor changes to legislation, CASA rules or CASA Advisory Circulars Use of uncertified or non-compliant drones and payloads for commercial activities Poor documentation of due diligence by officers in relation to drone risks 	4A	<ul style="list-style-type: none"> Establish a documented Drone Operations Governance Procedure that aligns with WHS Act 2011 and CASA Part 101 requirements Assign a competent Drone Operations Manager (or Responsible Person) with authority and resources to manage drone WHS and regulatory compliance Include drone operations in the organisation's WHS Policy, outlining commitment to safe use for farming, surveillance, advertising and filming activities Maintain a legal register for drone-related legislation, CASA regulations and relevant Australian Standards, reviewed at least annually and after regulatory changes Implement a documented compliance check process before any new drone activity (e.g. verifying licence/REOC/CoPL status, registration, insurance, operating permissions) Ensure officers receive periodic briefings on drone-related WHS risks and due diligence obligations under the WHS Act 2011 Establish formal consultation mechanisms with workers, contractors and other PCBUs sharing worksites to identify and manage overlapping drone safety duties Require written approval from senior management for new drone use cases (e.g. advertising videos, aerial surveillance, crop monitoring) following a structured risk assessment 	3H
2. Strategic Planning & Integration of Drone Technology	<ul style="list-style-type: none"> Ad-hoc introduction of drones into farming and media work without strategic planning Selection of drone platforms that are not fit for purpose (e.g. payload, endurance, weather capability) Inadequate consideration of privacy, reputational and community impact risks Failure to integrate drone operations with existing farm management, surveillance and filming workflows Over-reliance on drones for critical tasks without backup systems or contingency planning Underestimation of the complexity of multi-drone or multi-site operations Lack of budget allocation for ongoing training, maintenance and system upgrades 	4A	<ul style="list-style-type: none"> Develop a Drone Technology Implementation Plan covering farming, area surveillance, advertising and filming applications, endorsed by senior management Undertake formal needs analysis and options assessment before procurement to ensure drones, sensors and software are fit for purpose and support WHS outcomes Conduct a privacy and stakeholder impact assessment for surveillance and advertising/filming activities, including consultation with local communities where relevant Integrate drone operations into existing farm management systems, security protocols and media production planning processes Establish contingency plans for critical drone-supported tasks (e.g. crop monitoring, livestock surveillance) including manual alternatives or third-party support Limit initial deployment to pilot programs with defined objectives, performance metrics and WHS review points before scaling up Create a capital and operational expenditure budget that includes training, licensing, maintenance, software, data storage and periodic equipment replacement 	2M

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3. Procurement, Design & Technical Specification	<ul style="list-style-type: none"> Procurement of drones and accessories without safety and reliability criteria Use of consumer-grade drones for commercial farming and filming without appropriate safeguards Compatibility issues between drone, batteries, controllers and payloads (cameras, sensors, spraying systems) Lack of redundancy features (e.g. return-to-home, low-battery failsafe, geo-fencing) leading to uncontrolled flyaways Inadequate selection of protective cases, landing pads and charging systems for remote or farm environments Purchase of batteries and chargers without appropriate safety certification Failure to obtain manufacturer documentation and maintenance requirements at purchase 	3H	<ul style="list-style-type: none"> Develop a Drone Procurement Standard specifying minimum safety and performance requirements (e.g. geo-fencing, return-to-home, obstacle sensing, logging capability) Mandate procurement of drones and accessories from reputable suppliers with documented compliance to relevant Australian and international standards Require technical due diligence prior to purchase including review of payload capacity, endurance, wind ratings and ingress protection for farm environments Standardise drone platforms where practicable to reduce complexity of training, maintenance and spares management Specify certified batteries and smart chargers, with overcharge, over-temperature and short-circuit protection suitable for field use Ensure all drones are supplied with manufacturer manuals, maintenance schedules and firmware update guidance and that they are stored in a central system Include safety and data security requirements in procurement contracts, particularly for advertising and filming work involving client footage 	2M
4. Airspace, Site & Operational Risk Management Framework	<ul style="list-style-type: none"> Inadequate process for assessing airspace restrictions, STAM and CASA rules for each operation Drone flights near aerodromes, helipads, agricultural strips or low level flight routes without risk control Failure to consider terrain, obstacles, livestock, buildings, powerlines and public access during planning Inconsistent risk assessment between different pilot/operators and sites No formal process to authorise higher-risk operations (e.g. near roads, near people, at night, beyond visual line of sight where permitted) Overlooking seasonal farm hazards (e.g. dust, smoke, crop height, helicopter mustering) that affect drone operations 	4A	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	3H

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	<ul style="list-style-type: none"> Lack of integration between drone risk assessments and existing farm or site risk registers 			
5. Pilot Competency, Licensing & Training Systems	<ul style="list-style-type: none"> Unlicensed or inadequately trained pilots conducting commercial drone operations Inconsistent competency levels among staff and contractors for farming, surveillance and filming tasks Insufficient understanding of CASA rules, WHS Act duties and local procedures No formal process to verify third-party drone operators' qualifications and experience Lack of training in emergency handling, loss of control, and critical incident response Limited understanding of specific hazards associated with rural flying (dust, wind shear, RF interference) No refresher training leading to skill fade and non-compliance 	4A	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	2M
6. Fatigue, Workload & Human Factors Management	<ul style="list-style-type: none"> Pilot fatigue due to long farm workdays, early starts, and peak workloads Cognitive overload when pilots are also performing other duties (e.g. farm management, camera direction, client liaison) Complacency and overconfidence with frequent low-risk flights leading to shortcuts Stress and time pressure from tight filming schedules or advertising deadlines affecting decision-making Distraction from phones, radios, clients or other tasks while operating drones Inadequate consideration of environmental conditions (heat, sun 	3H	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	2M

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	exposure, dehydration) on pilot performance			
7. Operational Procedures, Permissions & Authorisations	<ul style="list-style-type: none"> Inconsistent or informal operating practices across farm, surveillance and advertising/filming activities No clear criteria for when flights may occur near people, livestock, buildings or roads Lack of structured process for gaining landholder or site owner permission for flights Failure to define roles and communication protocols between pilot, visual observer/spotter and ground crew Inadequate control over higher-risk operations such as night flights or flights in controlled airspace where permitted No standardised documentation for flight authorisation and record keeping 	3H	[REDACTED]	2M
8. Equipment Maintenance, Battery Management & Reliability Systems	<ul style="list-style-type: none"> Inadequate inspection and maintenance systems leading to in-flight failures Battery degradation, swelling, thermal runaway causing loss of power Uncontrolled firmware updates introducing new faults or incompatibilities Use of damaged propellers, frames or gimbals due to poor inspection practices Lack of structured servicing regimes for high-use farming or filming drones Improper storage and transport of drones and batteries in farm sheds, vehicles or remote locations 	4A	[REDACTED]	2M
9. Communications, Navigation & Situational Awareness Systems	<ul style="list-style-type: none"> Loss of control link between drone and controller due to interference or range issues 	3H	[REDACTED]	2M

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	<ul style="list-style-type: none"> • Reliance on GPS only, with no contingency for GPS loss or degradation • Poor communication between pilot, spotter and other workers in noisy farm or event environments • Inadequate visibility of drone location for ground personnel, vehicles and aircraft operating nearby • Use of incompatible or untested communication equipment during operations • Failure to notify relevant stakeholders (e.g. farm workers, contractors, event organisers) about live drone flights 		[REDACTED]	
10. Public, Client & Third-Party Safety Management	<ul style="list-style-type: none"> • Uncontrolled public access into drone operating areas during surveillance or filming • Injury to clients, actors, farm visitors or bystanders from drone contact or debris • Inadequate management of drones over roads, public pathways or near residential areas • Privacy complaints or regulatory action due to perceived surveillance from drones • Reputational damage and business loss following a high-profile incident with a drone • Failure to coordinate with event organisers or property managers at advertising shoots 	3A	[REDACTED]	2M
11. Data, Cybersecurity & Privacy Governance	<ul style="list-style-type: none"> • Unauthorised access to or loss of drone imagery and mapping data (including farm layouts, livestock locations and advertising footage) • Use of insecure cloud platforms or apps to store sensitive client or property information • Lack of clear ownership and retention rules for drone-generated data 	3H	[REDACTED]	1L

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	<ul style="list-style-type: none"> • GPS spoofing or cyber interference affecting drone navigation or control systems • Inadvertent capture of individuals in drone footage without consent leading to privacy breaches • Insufficient safeguards when contractors handle drone data for editing or analysis 		[REDACTED]	
12. Emergency Preparedness, Incident Response & Recovery	<ul style="list-style-type: none"> • Unplanned responses to drone crashes, flyaways, fires or near misses • Delayed medical response if a person is struck by a drone in remote farming areas • Failure to secure crash sites leading to secondary injuries or evidence loss • Lack of clear process for mandatory notifications to CASA, WHS regulators and insurers • Inadequate learning from incidents, resulting in repeat events • No recovery plan for critical drone-dependent operations (e.g. precision agriculture activities) 	4A	[REDACTED]	2M
13. Contractor, Supplier & Client Management	<ul style="list-style-type: none"> • Use of drone contractors who do not meet organisational WHS and regulatory standards • Poor coordination between in-house drone operations and third-party operators on the same site • Inconsistent safety expectations and communication with advertising agencies, film crews and agricultural consultants • Lack of evaluation of supplier reliability for maintenance, repairs and software support • Inadequate induction of clients and visitors to drone-related site rules and exclusion zones 	3H	[REDACTED]	2M

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14. Monitoring, Audit, Consultation & Continuous Improvement	<ul style="list-style-type: none"> No systematic monitoring of drone safety performance, leading to unnoticed trend deterioration Limited worker engagement in identifying issues with drone systems or procedures Failure to audit compliance with CASA and internal requirements Outdated procedures and risk assessments not reflecting current work practices or technology Lack of management review of drone safety outcomes and resource needs 	3H	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	1L

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.