Explosive Power Tools Gas and Pneumatic Nail Guns

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:

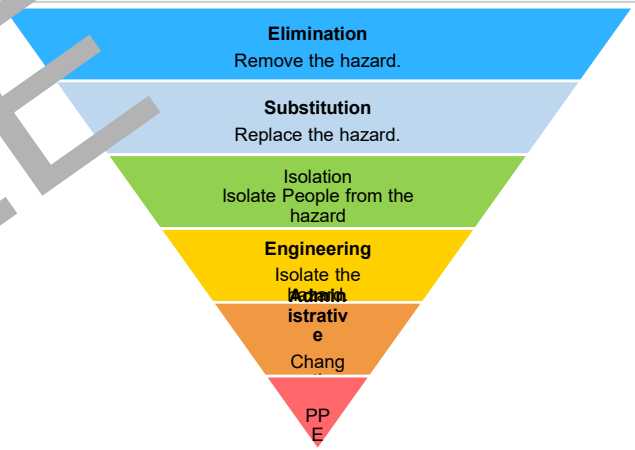
CLIENT OR PRINCIPAL CONTRACTOR DETAILS

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, Legal Compliance & Consultation	• Lack of documented WHS policy specific to explosive power tools, gas and pneumatic nail guns • Failure to align procedures with WHS Act 2011, WHS Regulations and relevant Australian Standards (e.g. AS/NZS 1873, AS 4024, AS/NZS 1269, AS/NZS 60079 where applicable) • Inadequate consultation with workers and Health and Safety Representatives (HSRs) on nail gun and fuel-powered tool risks • No clear allocation of WHS responsibilities for procurement, inspection, maintenance and supervision of nailing tools • Failure to monitor changes in legislation, codes of practice and manufacturer instructions for gas, electric and pneumatic fastener driving tools • Insufficient incident reporting and investigation processes to identify systemic failures involving nail guns and fuel-powered tools	4A	• Develop and implement a WHS governance framework that explicitly includes explosive power tools, gas-powered nailing tools, pneumatic nail guns, staple guns and electric fastener driving tools • Establish a legal register referencing WHS Act 2011, WHS Regulations, relevant codes of practice and Australian Standards related to power tools, hazardous chemicals and plant • Formalise worker consultation and HSR engagement processes when introducing, modifying or reviewing systems of work involving nail guns and fuel-powered tools • Define and document WHS roles, responsibilities and accountabilities for officers, managers, supervisors and workers in relation to nail gun risk management • Implement a documented process for regular review of legal and standard requirements and update procedures, policies and training content accordingly • Establish an incident and near-miss reporting, investigation and corrective action system specifically capturing events involving fastener driving tools	3H
2. Plant Procurement, Selection & Design of Nailing Tools	• Selection of nail guns (explosive or gas-powered tools without adequate safety features (e.g. sequential trip, contact trigger lockouts, safeguards) • Procurement driven solely by cost without considering safety performance, reliability and compatibility with existing compressor systems • Use of high-velocity nail guns or powder-actuated tools unsuited to the task or environment (e.g. confined spaces, explosive atmospheres) • Inadequate assessment of electric, pneumatic and gas tools for ergonomic risks, vibration and noise levels • Purchasing of non-compliant, imported or refurbished nailing tools without	4A	• Implement a formal plant and equipment procurement procedure requiring WHS review and approval prior to purchase of any nailing tools or fuel-powered tools • Specify minimum safety features for nail guns (e.g. sequential firing, safety interlocks, robust guard design, two-hand controls where appropriate, low kick-back design) • Require suppliers to provide evidence of compliance with relevant Australian Standards and manufacturer documentation before purchase • Conduct risk-based pre-purchase evaluations that consider noise, vibration, weight, trigger type and suitability for the intended tasks and work environment • Standardise preferred brands and models of nail guns, gas fuel cell systems and pneumatic staple guns across the organisation to simplify training and maintenance • Include WHS performance, availability of parts and service support as key criteria in supplier selection and procurement contracts	2M

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	conformity assessment or documentation • Failure to standardise brands and models, leading to confusion with consumables, fuel cells, nails and spare parts			
3. Hazard Identification, Risk Assessment & Change Management	• No systematic process to identify hazards associated with explosive power tools, gas cartridges, pneumatic compressors and high-velocity fasteners • Failure to reassess risks when introducing new nailing technologies, fuel types or compressed air systems • Inadequate evaluation of interaction risks with other plant (e.g. scaffolds, elevated work platforms, generators, extension leads, air hoses) • Over-reliance on generic SWMS without project-specific risk assessment for explosive power tools and nail gun • Lack of change management when modifying work methods, work sequences or tool confi[illegible]s	4A	• Develop and imp[illegible]ocum[illegible]ted hazard identification and risk assessment procedure specific to explosive pow[illegible]tools, gas [illegible]d pneu[illegible]atic nail[illegible]s and electric fastener driving tools • Require proj[illegible]specific [illegible]S risk ass[illegible]ments for nail gun use during planning stages, including asses[illegible]nt of e[illegible]iron[illegible]t, work at height, adjacent trades and public interface • Integ[illegible]te[illegible]ail gun[illegible]d fuel-powered tool risks into broader plant risk registers and site risk profiles • Imple[illegible]ent [illegible]ormal [illegible]nagement of change (MOC) process for introduction of new models, fuels, compres[illegible]ors, a[illegible]achme[illegible]ts or accessories for nailing tools • E[illegible]re [illegible]WMS, [illegible]SA or similar work documents are informed by, and aligned with, the high-level risk [illegible]asses[illegible] and updated when significant changes occur	2M
4. Training, Competency & Authorisation for Nail Gun Use	• Workers operatin[illegible]igh-velocity nail guns, fuel-powere[illegible]ools or pne[illegible]atic nailers without form[illegible]tra[illegible]g or competency assessment • Supervisors assuming previous experience equates to co[illegible]y on new or different nail gun systems • No verification of competency for temporary, labour hire or subcontract workers using fastener driving tools • Lack of training on specific hazards of gas-powered tools (e.g. fuel cell management, combustion gases, misfires, delayed discharge) • Poor understanding of manufacturer instructions, safe firing sequences and lock-out procedures	4A	[redacted]	2M

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5. Supervision, Behavioural Controls & Safe Use Culture	• Inadequate supervision of high-risk tasks involving nail guns, particularly new or young workers • Normalisation of unsafe behaviours such as bypassing interlocks, disabling safety devices or using contact trip for rapid firing near body • Horseplay or misuse of nail guns and fuel-powered tools as pointing devices or for non-design purposes • Production pressure and incentives that discourage safe work practices or encourage rushing • Failure to intervene when poor practices are observed, reinforcing unsafe culture	4A	[redacted]	2M
6. Equipment Inspection, Maintenance & Tagging Systems	• Lack of a scheduled maintenance system for nail guns, gas-powered tools, pneumatic staplers and associated compressors and hoses • Use of damaged or malfunctioning tools due to absence of pre-use inspection requirements • Uncontrolled repa[illegible] by unqualified personnel, leading [illegible] compromi[illegible] safety devices or i[illegible] assemblies • No traceability for servicing, lead[illegible] to continued use of tools be[illegible] service life • Failure to manage recalls, safety alerts or manufacturer bulletins relating to nailing tools and fuel cartridges	4A	[redacted]	2M
7. Fuel, Gas Cartridge & Compressed Air Management	• Improper storage and handling of gas fuel cells, explosive charges or compressed gas cylinders used with nail guns and fastener tools • Inadequate control of ignition sources in areas where flammable fuel cells and gas-powered tools are stored or used • Over-pressurisation or failure of pneumatic systems due to poorly	4A	[redacted]	2M

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	controlled compressor settings or damaged hoses • Leaks from gas-powered tools leading to accumulation of combustible or asphyxiant gases in poorly ventilated areas • Lack of clear procedures for transport, segregation and disposal of spent gas cartridges and fuel containers		[redacted]	
8. Work Environment, Layout & Interaction with Others	• Operation of nail guns in congested work areas where other trades or the public may be exposed to stray fasteners or ricochet • Use of pneumatic nailers and staple guns at height without system controls for dropped objects or tool tethering • Poor lighting, clutter, unstable work surfaces or uncontrolled work platforms increasing misfire or loss of control risk • Inadequate segregation or barricadin of high-risk nailing activities from pedestrian routes and adjacent workfaces • Insufficient envir mental controls for noise, dust and fu s from gas-powered tools a pressors	3H	[redacted]	2M
9. Electrical, Pneumatic & Mechanical Safety Interfaces	• Use of electric nail guns and compressors on inadequate or non-RCD-protected circuits • Improper selection or connection of air hoses, couplings and fittings leading to hose whip, disconnection or uncontrolled movement • Failure of mechanical guards, nosepieces or contact trip mechanisms after incorrect assembly or modification • Cross-connection of air lines feeding multiple high-demand pneumatic nail guns, causing pressure drops and misfires	3H	[redacted]	1L

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	• Inadequate protection of cables and hoses in high-traffic areas, creating trip and entanglement hazards			
10. Personal Protective Equipment & Hearing Conservation Systems	• Systemic under-provision or inconsistent use of eye, face and hand protection for operators and nearby workers • Inadequate control of noise exposure from repeated nail gun discharge, compressors and associated tools • Reliance on PPE as the primary control instead of engineering and administrative measures • Lack of a structured process to select, issue, maintain and replace PPE suitable for nailing activities • No audiometric testing or hearing conservation program for frequent users of high-velocity nail guns and pneumatic tools	3H	[redacted]	2M
11. Contractor, Labour Hire & Supplier Management	• Inconsistent WHS standards among contractors using their own nail guns, compressors and gas-p[redacted] tools on site • Lack of clarity ab[redacted]t who is re[redacted]sible for inspection, mai[redacted] and tag[redacted]g of contractor-owned nailing equipme[redacted] • Insufficient verification of contrac[redacted] training, licensing and co[redacted]y for explosive and high-velocity nail gun use • Suppliers providing demonstration tools or hire equipment without integration into the site WHS management system • Poor communication of site-specific rules for fastener driving tools, exclusion zones and fuel management	3H	[redacted]	2M
12. Incident, Misfire & Defect Reporting, Investigation & Learning	• Under-reporting of misfires, near misses, ricochets and minor injuries involving nail guns and fuel-powered tools	3H	[redacted]	1L

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	• Failure to identify systemic issues such as recurring defects, training gaps or poor supervision from individual incidents • Inadequate isolation and investigation of tools involved in incidents, leading to recurrence • No feedback loop to update procedures, training or procurement specifications after serious events • Inconsistent record keeping, preventing trend analysis of nail gun-related incidents		[redacted]	
13. Emergency Preparedness, First Aid & Medical Response	• Lack of planning for penetrating injuries, eye injuries and traumatic amputations associated with nail gun misuse or malfunction • Inadequate first aid resources and responder competency for high-velocity fastener injuries • Confusion about emergency procedures when incidents occur in remote or difficult-to-acc[redacted]ations • Delayed communi[redacted]tion with emergency servic[redacted]due to poor[redacted] information or lack [redacted] equipment • No post-incident support or fitness-for-work assessm[redacted]orkers after serious nail gun incidents	3H	[redacted]	2M
14. Fatigue, Work Scheduling & Psychosocial Risk Management	• Extended hours or high work pace increasing the likelihood of errors, misfires or loss of control when using fastener driving tools • Inadequate breaks or job rotation for repetitive nail gun tasks leading to decreased attention and musculoskeletal strain • Psychosocial factors such as bullying, harassment or unrealistic deadlines contributing to risk-taking behaviour with nail guns	3H	[redacted]	2M

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	• Insufficient consideration of individual fitness for work (e.g. medication, stress, impairment) in allocation of high-risk nail gun tasks		[redacted]	
15. Documentation, Records, Auditing & Continuous Improvement	• Incomplete or outdated procedures, manuals and instructions relating to the use of explosive, gas-powered, pneumatic and electric nailing tools • Poor record keeping of training, maintenance, inspections and incidents hindering compliance demonstration and trend analysis • Lack of formal auditing of WHS systems associated with fastener driving tools, leading to unnoticed non-conformances • Failure to systematically review and improve risk controls over time • Inconsistent version control causing workers to follow superseded instructions for nail gun use and maintenance	3H	[redacted]	1L

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