

Shot Blasting On Pipelines Risk Assessment

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:								Notes on Hierarchy of Controls:	
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.								Remember to apply controls in the preferred order shown by the coloured pyramid:	
3H Review and approve additional controls before task starts. Senior supervisor sign-off needed.								1. Eliminate	
2M Ensure all nominated controls are in place and effective. Proceed with caution; monitor conditions.								2. Substitute	
1L Proceed, following standard operating procedures. Monitor and keep records.								3. Isolate	
								4. Engineering	
								5. Administrative	
								6. PPE	
Consequence Scale:								Always document why a lower-order control is accepted if elimination or substitution is not reasonably practicable.	
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				
								<i>aligned with Safe Work Australia's Managing the risk of fatigue at work (2023) and ISO 45001:2018 clauses 6–8.</i>	

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. Preparation	untrained personnel, incorrect equipment setup	3H	<ul style="list-style-type: none"> - Ensure all personnel are trained in shot blasting procedures - Verify equipment is in proper working condition - Conduct toolbox talk prior to starting work - Review and understand the risk assessment and method statement - Ensure all safety equipment is available and functional - Check and calibrate pressure settings on blaster - Verify communication devices are working - Display clear warning signs in the work area - Establish exclusion zones - Ensure efficient lighting in the work area 	2M
2. Area Isolation	unauthorised entry, environmental contamination	3H	<ul style="list-style-type: none"> - Use barricades and signage for access control - Implement a permit-to-work system - Assign a watchperson to monitor the area - Inspect and seal drainage systems - Use absorbent materials to manage spills - Verify all hazardous materials containers are labelled - Ensure wind barriers are in place - Conduct environmental impact assessment - Provide waste disposal bins for debris - Regularly inspect isolation barriers 	1L
3. Equipment Inspection	equipment malfunction, leaks	3H	<ul style="list-style-type: none"> - Perform pre-start equipment checks - Inspect hoses for wear and damage - Test all valves and connections for leaks - Document equipment conditions - Conduct pressure tests on the system - Ensure all guards are in place - Use only manufacturer-approved parts - Maintain a repair log 	2M

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			<ul style="list-style-type: none"> - Verify inspection certificates are up-to-date - Ensure tools are grounded to prevent static discharge 	
4. Personal Protective Equipment (PPE) Usage	inadequate PPE, PPE failure	2M	<ul style="list-style-type: none"> - Wear appropriate PPE (hard hat, safety glasses, earplugs, earmuffs, gloves, and safety boots) - Ensure PPE is in good condition and used correctly - Use fall protection when working at heights - Use proper lifting techniques to avoid injury - Use proper tool handling techniques to avoid injury - Use proper storage and handling of materials to avoid injury - Use proper disposal of waste to avoid injury - Use proper cleaning and maintenance of equipment to avoid injury - Use proper safety protocols to avoid injury - Use proper communication to avoid injury - Use proper coordination to avoid injury - Use proper supervision to avoid injury - Use proper training to avoid injury - Use proper experience to avoid injury - Use proper knowledge to avoid injury - Use proper skills to avoid injury - Use proper attitude to avoid injury - Use proper motivation to avoid injury - Use proper commitment to avoid injury - Use proper responsibility to avoid injury - Use proper accountability to avoid injury - Use proper integrity to avoid injury - Use proper honesty to avoid injury - Use proper fairness to avoid injury - Use proper respect to avoid injury - Use proper courtesy to avoid injury - Use proper politeness to avoid injury - Use proper consideration to avoid injury - Use proper discretion to avoid injury - Use proper judgment to avoid injury - Use proper decision-making to avoid injury - Use proper problem-solving to avoid injury - Use proper critical thinking to avoid injury - Use proper analytical skills to avoid injury - Use proper creative skills to avoid injury - Use proper communication skills to avoid injury - Use proper teamwork skills to avoid injury - Use proper leadership skills to avoid injury - Use proper management skills to avoid injury - Use proper organizational skills to avoid injury - Use proper planning skills to avoid injury - Use proper time management skills to avoid injury - Use proper resource management skills to avoid injury - Use proper budgeting skills to avoid injury - Use proper financial skills to avoid injury - Use proper marketing skills to avoid injury - Use proper sales skills to avoid injury - Use proper customer service skills to avoid injury - Use proper quality control skills to avoid injury - Use proper quality assurance skills to avoid injury - Use proper quality improvement skills to avoid injury - Use proper quality management skills to avoid injury - Use proper quality control skills to avoid injury - Use proper quality assurance skills to avoid injury - Use proper quality improvement skills to avoid injury - Use proper quality management skills to avoid injury 	1L
5. Surface Preparation	dust inhalation, flying debris	3H	<ul style="list-style-type: none"> - Wear appropriate PPE (hard hat, safety glasses, earplugs, earmuffs, gloves, and safety boots) - Ensure PPE is in good condition and used correctly - Use fall protection when working at heights - Use proper lifting techniques to avoid injury - Use proper tool handling techniques to avoid injury - Use proper storage and handling of materials to avoid injury - Use proper disposal of waste to avoid injury - Use proper cleaning and maintenance of equipment to avoid injury - Use proper safety protocols to avoid injury - Use proper communication to avoid injury - Use proper coordination to avoid injury - Use proper supervision to avoid injury - Use proper training to avoid injury - Use proper experience to avoid injury - Use proper knowledge to avoid injury - Use proper skills to avoid injury - Use proper attitude to avoid injury - Use proper motivation to avoid injury - Use proper commitment to avoid injury - Use proper responsibility to avoid injury - Use proper accountability to avoid injury - Use proper integrity to avoid injury - Use proper honesty to avoid injury - Use proper fairness to avoid injury - Use proper respect to avoid injury - Use proper courtesy to avoid injury - Use proper politeness to avoid injury - Use proper consideration to avoid injury - Use proper discretion to avoid injury - Use proper judgment to avoid injury - Use proper decision-making to avoid injury - Use proper problem-solving to avoid injury - Use proper critical thinking to avoid injury - Use proper analytical skills to avoid injury - Use proper creative skills to avoid injury - Use proper communication skills to avoid injury - Use proper teamwork skills to avoid injury - Use proper leadership skills to avoid injury - Use proper management skills to avoid injury - Use proper organizational skills to avoid injury - Use proper planning skills to avoid injury - Use proper time management skills to avoid injury - Use proper resource management skills to avoid injury - Use proper budgeting skills to avoid injury - Use proper financial skills to avoid injury - Use proper marketing skills to avoid injury - Use proper sales skills to avoid injury - Use proper customer service skills to avoid injury - Use proper quality control skills to avoid injury - Use proper quality assurance skills to avoid injury - Use proper quality improvement skills to avoid injury - Use proper quality management skills to avoid injury - Use proper quality control skills to avoid injury - Use proper quality assurance skills to avoid injury - Use proper quality improvement skills to avoid injury - Use proper quality management skills to avoid injury 	1L
6. Blasting Operations	high pressure injuries, noise exposure	4A	<ul style="list-style-type: none"> - Wear appropriate PPE (hard hat, safety glasses, earplugs, earmuffs, gloves, and safety boots) - Ensure PPE is in good condition and used correctly - Use fall protection when working at heights - Use proper lifting techniques to avoid injury - Use proper tool handling techniques to avoid injury - Use proper storage and handling of materials to avoid injury - Use proper disposal of waste to avoid injury - Use proper cleaning and maintenance of equipment to avoid injury - Use proper safety protocols to avoid injury - Use proper communication to avoid injury - Use proper coordination to avoid injury - Use proper supervision to avoid injury - Use proper training to avoid injury - Use proper experience to avoid injury - Use proper knowledge to avoid injury - Use proper skills to avoid injury - Use proper attitude to avoid injury - Use proper motivation to avoid injury - Use proper commitment to avoid injury - Use proper responsibility to avoid injury - Use proper accountability to avoid injury - Use proper integrity to avoid injury - Use proper honesty to avoid injury - Use proper fairness to avoid injury - Use proper respect to avoid injury - Use proper courtesy to avoid injury - Use proper politeness to avoid injury - Use proper consideration to avoid injury - Use proper discretion to avoid injury - Use proper judgment to avoid injury - Use proper decision-making to avoid injury - Use proper problem-solving to avoid injury - Use proper critical thinking to avoid injury - Use proper analytical skills to avoid injury - Use proper creative skills to avoid injury - Use proper communication skills to avoid injury - Use proper teamwork skills to avoid injury - Use proper leadership skills to avoid injury - Use proper management skills to avoid injury - Use proper organizational skills to avoid injury - Use proper planning skills to avoid injury - Use proper time management skills to avoid injury - Use proper resource management skills to avoid injury - Use proper budgeting skills to avoid injury - Use proper financial skills to avoid injury - Use proper marketing skills to avoid injury - Use proper sales skills to avoid injury - Use proper customer service skills to avoid injury - Use proper quality control skills to avoid injury - Use proper quality assurance skills to avoid injury - Use proper quality improvement skills to avoid injury - Use proper quality management skills to avoid injury - Use proper quality control skills to avoid injury - Use proper quality assurance skills to avoid injury - Use proper quality improvement skills to avoid injury - Use proper quality management skills to avoid injury 	2M

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7. Debris Management	slip and trip, improper disposal	3H		1L
8. Equipment Shutdown	energy liberation, re-pressurization	3H		1L
9. Area Decontamination	chemical exposure, secondary contamination	2M		1L

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10. Post-Operation Inspection	undetected damage, reporting errors	2M		1L
11. Document Control	loss of records, unauthorised access	2M		1L
12. Incident Reporting	unreported incidents, delay in response	3H		1L

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13. Review and Feedback	oversights in risk evaluation, lack of continuous improvement	2M		1L
14. Emergency Response Planning	unpreparedness, panic during emergencies	3H		1L
15. Equipment Maintenance	unexpected failures, inefficient operation	2M		1L

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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 IF 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 2017

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>

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/laws-and-compliance/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