Cold-Room Construction

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:

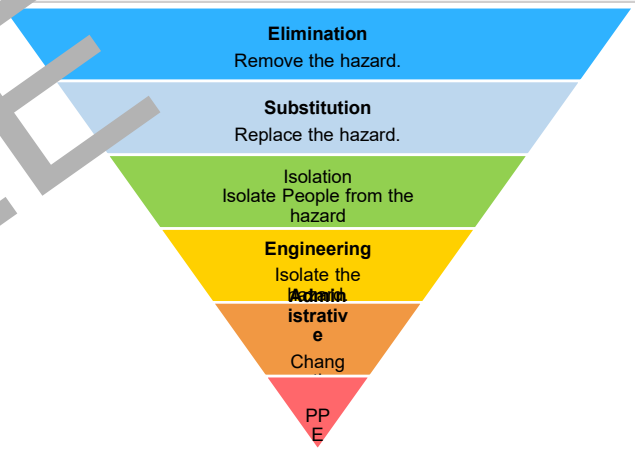
CLIENT OR PRINCIPAL CONTRACTOR DETAILS

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 and Duties	• Inadequate understanding or implementation of WHS Act 2011 and WHS Regulations duties by PCBUs, officers and supervisors in relation to cold-room construction and maintenance • Lack of clear WHS objectives, KPIs and accountability for cold-room and freezer work (including subcontractors) • Insufficient consultation with workers and Health and Safety Representatives (HSRs) about cold-room specific risks such as low temperature working conditions and long exposure to cold • No systematic review of WHS management system when serious incidents or near misses occur in cold storage spaces • Failure to consider relevant Australian Standards, Codes of Practice and manufacturer instructions for insulated panelling, refrigeration plant and cold-room doors	High	• Establish and document a WHS management system that specifically addresses construction of cold-room and freezer panelling, repair activities and ongoing work in cold storage spaces, aligned with WHS Act 2011 and WHS Regulations • Define WHS roles, responsibilities and due diligence obligations for officers, managers, supervisors and contractors, including explicit responsibilities for managing low temperature and cold exposure risks • Develop a WHS legal register covering applicable WHS legislation, Codes of Practice, refrigeration and electrical standards, and cold storage guidance, and review it at least annually or when regulations change • Implement formal worker consultation and HSR engagement processes (toolbox talks, safety committees, design reviews focused on cold-room construction methods, safe access/egress, emergency response, and health monitoring • Set WHS performance indicators specific to cold-room works (e.g. number of cold-exposure reports, corrective actions closed, training completion) and review them at leadership meetings • Undertake regular WHS management system audits and cold-room focused inspections by competent persons to verify compliance and effectiveness, and ensure findings are tracked through a corrective action register • Ensure senior leaders receive periodic briefings and training in WHS due diligence with examples and case studies relevant to cold storage and low temperature operations	Medium
2. Design, Engineering and Procurement of Cold-Room Systems	• Cold-room and freezer layout not designed with safe access, egress and emergency escape in mind, increasing entrapment and delayed rescue risks • Selection of insulated panelling, doors, seals and fixings without adequate fire performance, structural adequacy or compatibility with food and hygiene requirements • Insufficient thermal design and airflow leading to extreme cold spots, ice build-up, condensation and slip hazards in cold storage spaces • Omission of safety-by-design features such as internal release mechanisms, door alarms, viewing panels, anti-entrapment systems and non-slip flooring • Procurement of refrigeration plant, controls and monitoring systems (e.g. defrost, alarms, temperature sensors)	High	• Adopt a formal safe design process for cold-rooms and freezers, requiring WHS input at concept, detailed design and procurement stages, and documenting safety decisions and residual risks • Specify in procurement documentation that all cold-room panelling, doors, insulation materials, fixings and sealants must comply with relevant Australian Standards, fire performance criteria and hygiene requirements • Design layouts to provide clear and unobstructed access and egress routes with emergency exit doors that open from the inside, illuminated signage, and internal release mechanisms for all cold storage spaces • Engineer the thermal performance and airflow to minimise localised extreme cold, frost and ice build-up, including adequate insulation, vapour barriers and drainage to reduce condensation and slip hazards • Incorporate safety features such as door-open alarms, internal call-points, monitoring cameras or windows, anti-slip floor finishes, lighting suitable for low temperatures, and audible/visual alarm systems • Specify plant and control systems that support WHS risk management, including high/low temperature alarms, remote monitoring, emergency stop devices, and integration with building management and emergency systems • Include in design documentation safe access for installation, inspection, maintenance and repair tasks, including permanent platforms, anchor points, safe ladder systems and clear isolation points	Medium

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	that do not integrate with WHS risk controls or allow effective supervision • Failure to design-in lock-out, isolation and maintenance access provisions for refrigeration, electrical components and elevated areas • Inadequate consideration of manual handling, material storage, and plant movement interfaces during design of cold-room and freezer panelling systems		• Ensure design and procurement reviews formally assess risks of long exposure to cold and low temperature working conditions, and embed controls such as heated rest areas and staging zones outside cold storage • Conduct pre-award technical evaluations of suppliers to verify that their products and systems have been tested and proven for low temperature environments and that they provide clear WHS documentation	
3. Contractor Management and Cold-Room Specialist Engagement	• Engagement of installers, refrigeration technicians and repair contractors without verifying competency in cold-room construction, repair and low temperature work • Poor definition of WHS expectations for subcontractors, leading to inconsistent management of cold-room risks across trades • Inadequate prequalification process failing to identify contractors with poor WHS history or inadequate systems for managing work in cold storage spaces • Lack of coordination between principal contractor and specialist cold-room contractors, leading to interfaces such as simultaneous plant conflicts and uncontrolled energisation of refrigeration systems • Inadequate oversight of contractor adherence to site rules, permit systems, temperature exposure controls and emergency procedures • Subcontractors designing or modifying cold-room elements on-site without engineering review or WHS risk assessment	High	• Implement a formal contractor prequalification system requiring evidence of WHS management systems, licences, technical qualifications and experience specifically in cold-room and freezer construction and repair • Include cold-room specific WHS requirements in all contracts and scopes of work, covering thermal exposure controls, emergency entrapment prevention, isolation procedures, and incident reporting expectations • Require approved safe work procedures and risk assessments from contractors that address system and management controls for low temperature environments, and review them before work commences • Establish a contractor induction program that includes hazards associated with cold storage spaces, emergency escape routes, communication protocols and temperature exposure management • Assign a competent contract supervisor to coordinate interfaces between trades, schedule cold-room construction and repair work to minimise overlap, and monitor compliance with WHS controls and permit conditions • Use a permit-to-work or authorisation process for high-risk activities within or affecting cold-rooms (e.g. hot works near panelling, plant energisation, working at heights over panels, electrical isolation) • Audit contractor WHS performance against agreed KPIs and conduct regular joint inspections focusing on cold-room risks such as frost build-up, door function, and alarm systems • Require contractors to provide as-built documentation, commissioning records and manufacturer safety information for all installed cold-room components for integration into site WHS systems	Medium
4. Training, Competency and Induction for Cold Environments	• Workers and supervisors not trained to recognise symptoms and early warning signs of cold stress, hypothermia and cold-related musculoskeletal injuries • Inadequate instruction on safe work practices in cold storage spaces,	High	[redacted]	Medium

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	including working time limits, warm-up breaks and use of appropriate clothing and PPE • Lack of competency in emergency response procedures for persons trapped or incapacitated inside cold-rooms or freezers • Insufficient awareness of system controls such as temperature monitoring, alarm acknowledgment protocols, and reporting obligations for cold-exposure incidents • Supervisors lacking skills to plan work in cold conditions, monitor worker condition and enforce exposure limits • New workers and contractors not properly inducted to site-specific cold-room layouts, exits, communication devices and local variations in temperature		[redacted]	
5. Planning, Scheduling and Exposure Management in Cold Storage	• Poor planning of installation and repa tasks leading to prolonged continuous exposure to freezing or s ro temperatures • Lack of docume d limits for maximum exposu me s sum nt warm-up breaks for w kers in cold-rooms and freezers • Inadequate staging of m ri and tools, causing unnecessary time spent in cold storage spaces searching for items or re-entering multiple times • Failure to account for individual health conditions, fitness for work and acclimatisation when allocating tasks in low temperature areas • Insufficient consideration of production schedules or client demands leading to pressure to shortcut exposure controls or skip breaks • Work sequencing not optimised to minimise periods where cold-rooms	High	[redacted]	Medium

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	must be held at very low temperatures during construction or repair		[redacted]	
6. Thermal Environment, PPE and Worker Health Management	• Inadequate provision or management of thermal PPE leading to cold stress, reduced dexterity and increased risk of errors during construction and repairs • No formal system for health monitoring of workers frequently exposed to low temperatures or long-term cold storage environments • Poor management of wet clothing, condensation and perspiration leading to accelerated heat loss and risk of hypothermia • Insufficiently heated and equipped warm-up areas and amenities for workers exiting freezer rooms or low temperature spaces • Reliance on workers' own clothing without verifying suitability for prolonge low temperature working conditions • Failure to consider e combined impact of cold with hysical exertion, vibration and awk d postu musculoskeletal dis	High	[redacted]	Medium
7. Plant, Equipment and Maintenance Systems for Cold-Rooms	• Failure of refrigeration plant, de st systems or door seals lea g to temperature fluctuations, ice build-up and unsafe working surfaces • Unreliable temperature and alarm monitoring systems reducing ability to manage prolonged cold exposure and detect dangerous conditions • Inadequate preventive maintenance of cold-room panels, fixings, suspension systems and access platforms increasing risk of structural failure or falling objects • Lack of maintenance access design and procedures leading to unsafe ad	High	[redacted]	Medium

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	hoc methods to reach high-level panelling and plant in cold storage spaces • Uncontrolled energisation of plant or movement of mobile equipment during cold-room installation and repair activities • Delayed repair of defects such as faulty internal releases, alarm push buttons, door heaters or lighting, elevating entrapment or cold exposure risks		[redacted]	
8. Emergency Planning, Entrapment and Incident Management	• Inadequate emergency procedures for persons trapped, injured or incapacitated inside cold-rooms or freezers • Lack of reliable communication methods from within cold storage spaces to summon assistance • Delayed recognition and response to alarms indicating door faults, person trapped or abnormal temperature conditions • Emergency exits blocked by materials, temporary [illegible] or construction debris during cold-room construction and repair • Insufficient first aid capability for cold-related conditions such as hypothermia and frostbite • Incident investigations failing to identify underlying system or management causes related to cold exposure and emergency response	High	[redacted]	Low
9. Documentation, Records and Continuous Improvement	• Incomplete or outdated WHS documentation for cold-room construction, repair and operation, leading to inconsistent risk control	Medium	[redacted]	Low

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	• Poor record keeping of training, inspections, maintenance and exposure management, making it difficult to demonstrate compliance with WHS Act 2011 • Lack of systematic review of incident data and worker feedback on low temperature working conditions and long exposure to cold • Failure to capture lessons learned from projects involving cold-room and freezer panelling construction for application to future work • Documented procedures not reflecting actual work practices in cold storage spaces, leading to procedural non-compliance and unmanaged risks		[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