

Working In Bus, Train Or Plane Hvac Systems 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 | lack of knowledge, poor planning | 3H | <ul style="list-style-type: none"> - Provide thorough training on HVAC systems - Develop comprehensive work plans - Ensure detailed risk assessments are conducted - Regular safety briefings - Consult with experienced HVAC professionals - Review past incident reports - Verify HVAC system specifications - Prepare emergency response strategies - Ensure communication tools are available - Confirm availability of necessary PPE | 2M |
| 2. Accessing Site | slip and trip hazards, unauthorised access | 3M | <ul style="list-style-type: none"> - Identify and mark potential slip and trip hazards - Restrict site access to authorised personnel - Ensure safe walkways are clear and adequately lit - Provide site orientation for new workers - Use appropriate footwear - Protect public from hazardous areas - Display clear signage of hazards - Implement buddy system - Regularly inspect access points - Establish check-in procedures | 2M |
| 3. Isolation of HVAC Systems | electric shock, system activation | 4A | <ul style="list-style-type: none"> - Lockout-tagout procedures in place - Verify de-energization before work commences - Use insulated tools - Train workers in electrical safety - Document and communicate isolation points - Clearly label all switches and controls - Implement periodic checks during work - Assign responsibility to qualified personnel | 2M |

| 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 |
| | | | <ul style="list-style-type: none"> - Conduct toolbox talks on specific hazards - Use multimeters to confirm no live current | |
| 4. Ventilation Inspection | exposure to dust and allergens, inadequate ventilation | 3H | <ul style="list-style-type: none"> - Wear appropriate PPE (respiratory protection, gloves, eye protection) - Ensure adequate ventilation is in place before starting work - Use dust extraction equipment if available - Avoid generating dust or allergens during inspection - Stop work immediately if symptoms of exposure occur - Report any issues with ventilation to the supervisor - Keep work area clean and free of clutter - Use proper lifting techniques - Avoid contact with skin or clothing - Wash hands thoroughly after work - Seek medical attention if symptoms persist | 1L |
| 5. System Component Removal | manual handling injuries, component falls | 3H | <ul style="list-style-type: none"> - Use proper lifting techniques (bend knees, lift with legs) - Use appropriate PPE (gloves, safety glasses) - Ensure component is properly supported before removal - Use lifting equipment (hoists, cranes) if available - Avoid overexertion or twisting the body - Keep work area clear of obstacles - Use proper storage and handling procedures for removed components - Communicate with team members to ensure safe removal - Stop work if feeling pain or discomfort - Report any incidents or near misses to the supervisor | 2M |
| 6. Electrical Maintenance | electric shock, arc flash | 4A | <ul style="list-style-type: none"> - Lockout/tagout (LOTO) procedures must be strictly followed - Use appropriate PPE (arc flash suit, gloves, face shield) - Verify that the system is de-energized before working - Use insulated tools and equipment - Maintain safe distances from live parts - Avoid contact with live electrical components - Use proper grounding techniques - Keep work area dry and free of conductive materials - Follow manufacturer's instructions for equipment - Stop work immediately if an arc flash or shock occurs - Report any electrical incidents to the supervisor | 2M |

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| | | | | |
| 7. Refrigerant Handling | toxic exposure, frostbite | 4A | | 2M |
| 8. HVAC System Cleaning | chemical exposure, fire hazard | 3H | | 1L |
| 9. Testing and Calibration | false readings leading to incorrect settings, unexpected system startup | 3H | | 2M |

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| | | | | |
| 10. Reinstallation of System Components | incorrect installation, damaged components | 3H | | 1L |
| 11. Operating System Testing | equipment malfunction, unexpected pressure build-up | 3H | | 1L |
| 12. System Start-Up | mechanical failure, data loss | 3H | | 2M |

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| | | | | |
| 13. Monitoring and Maintenance | neglecting scheduled maintenance, gauge failure | 3H | | 1L |
| 14. Decommissioning Systems | incorrect disposal of components residual energy release | 4A | | 2M |
| 15. Documentation | data loss, non-compliance | 3H | | 1L |

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| | | | <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> | |
| 16. Emergency Procedures | inadequate response, personal injury | 4A | <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> | 2M |
| 17. PPE Management | equipment failure, insufficient protection | 3H | <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> | 1L |
| 18. Communication | miscommunication, delayed information flow | 3H | <div></div> <div></div> <div></div> | 1L |

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| | | | | |
| 19. Quality Assurance | defective work outcomes, failure to meet standards | 3H | | 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 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/lis>

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>

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