

Programming Of Plc Controlled Machinery 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: | |

SAMPLE

| 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 before task starts. 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. Preparation | Slip, Trip and Fall Hazards, Electric Shock | 3H | <ul style="list-style-type: none"> - Wear appropriate personal protective equipment (PPE) such as non-slip shoes and insulated gloves. - Ensure the working area is clean and free from obstructions. - Follow lockout/tagout procedures when dealing with electrical components. - Conduct a pre-start safety briefing for all personnel involved in the task. - Verify that all workers are trained and competent to perform the task safely. - Ensure all emergency stops and safety devices are functioning properly. - Use barriers or tapes to restrict access to the work area. - Regularly inspect tools and equipment for signs of wear and damage. - Use appropriate tools for electrical work to minimise risks. - Ensure adequate lighting in the work area. | 2M |
| 2. Review Documentation | Incorrect Documentation, Misinterpretation of Procedures | 2M | <ul style="list-style-type: none"> - Verify documentation is current and relevant to the task at hand. - Have a second qualified person review critical documents. - Cross-check project specifications and control schematics. - Provide training on document interpretation for involved personnel. - Use clear and standardised notation in all documentation. - Implement a document control system ensuring that only current versions are in use. - Consult with engineers or senior staff for clarification when required. - Label documents clearly to avoid confusion. - Provide visual aids or diagrams where helpful. - Ensure a clear understanding of roles and responsibilities among the team. | 1L |
| 3. System Shutdown | Uncontrolled Equipment Movement, Residual Energy | 3H | <ul style="list-style-type: none"> - Follow lockout/tagout procedures rigorously before commencing shutdown. - Depressurise all pneumatic and hydraulic systems before working. - Use multi-lock systems to ensure team knows systems are deactivated. - Place clear, prominent signage to indicate shutdown and maintenance in progress. - Test equipment to ensure no residual energy is present before proceeding. - Designate a supervisor to oversee the shutdown procedure. - Provide thorough training on shutdown procedures for machinery. - Create a checklist for methodical shutdown to ensure all steps are followed. | 1L |

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| | | | <ul style="list-style-type: none"> - Maintain communication among all team members during shutdown. - Verify all motion has ceased before beginning any further work. | |
| 4. Upload New Software | Data Corruption, System Downtime | 3H | [REDACTED] | 2M |
| 5. Verify Software Integrity | Software Malfunction, Inaccurate Configuration | 2M | [REDACTED] | 1L |
| 6. Hardware Connection | Physical Injury, Compatibility Issues | 3H | [REDACTED] | 2M |

SAMPLE

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| | | | [REDACTED] | |
| 7. Functional Testing | Unexpected Equipment Operation, Component Failure | 3H | [REDACTED] | 2M |
| 8. Re-calibrate Sensors | Calibration Drift, Sensor Failure | 2M | [REDACTED] | 1L |
| 9. Restore Power | Power Surge, Equipment Restart Issues | 3H | [REDACTED] | 2M |

SAMPLE

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| | | | [REDACTED] | |
| 10. Update Operational Protocols | Procedural Non-Compliance, Inadequate Training | 2M | [REDACTED] | 1L |
| 11. Staff Briefing | Miscommunication, Information Overload | 2M | [REDACTED] | 1L |
| 12. Conduct A Final Safety Check | Overlooked Hazards, Last-Minute Changes | 3H | [REDACTED] | 1L |

SAMPLE

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| | | | [REDACTED] | |
| 13. Gradual Live Commissioning | Operational Error, Unforeseen System Issues | 3H | [REDACTED] | 2M |
| 14. Full Operational Hand-Over | Incomplete Handover, Operational Mistakes | 2M | [REDACTED] | 1L |
| 15. Post-Operational Review | Unrevealed Defects, Inefficient Practices | 2M | [REDACTED] | 1L |

SAMPLE

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| SPECIFIC WORK STEPS | HAZARDS THAT MAY ARISE | INITIAL RISK | SPECIFIC MEASURES TO BE PUT IN PLACE TO ELIMINATE OR CONTROL THE RISKS | RESIDUAL RISK |
| | | | <div style="background-color: black; height: 15px; width: 100%;"></div> <div style="background-color: black; height: 15px; width: 95%;"></div> <div style="background-color: black; height: 15px; width: 80%;"></div> <div style="background-color: black; height: 15px; width: 90%;"></div> <div style="background-color: black; height: 15px; width: 75%;"></div> <div style="background-color: black; height: 15px; width: 85%;"></div> <div style="background-color: black; height: 15px; width: 70%;"></div> <div style="background-color: black; height: 15px; width: 80%;"></div> | |
| | | | | |

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 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-of-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) Regulations 2011
 Legislation NT: <https://worksafe.nt.gov.au/laws-and-compliance/workplaces-and-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.

