

**GENERAL RISK ASSESSMENT TEMPLATE**

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| **Work area / operation** | CB11.10.403 | | **Assessor’s name** | Daniel McMahon | | | |
| **Other persons consulted** | Jennifer Wilson | | | | **Date of safety assessment** | | 01/10/24 |
| Subject Coordinator’s Name | Gavin Paul | Lab Supervisor’s Name | | | | Michael Lee | |

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| **ACTIVITY**  - Describe hazardous activities related to the work area or operation. | **ASSOCIATED HAZARDS** | **INHERENT RISK**  - Harm that could occur from these hazards if controls fail or are not in place. | **EXISTING CONTROL MEASURES** | **PROPOSED CONTROL MEASURES**  - Proposed action to minimise risk to an acceptable level. | **TARGET DATE**  - To implement proposed controls | **RESIDUAL RISK LEVEL** (H,M,L) |
| Electrical cables mishandled | Loose wire, exposed wire, trip hazard | Death, electrocution, nerve damage, injury when you fall | Electrical cables are organised and not exposed | Add warning labels to cables. Ensure cables are well hidden from operating area. Cables are of good quality | 01/10/24 | L |
| Leaving the robot arm unattended | Unauthorised use | Injury due to negligence | Restricted access | If not interaction with the robot after x time. Auto shutoff | 01/10/24 | L |
| Using inappropriate load on the robot | Uncontrolled movement, damage to equipment | Physical injury | Weight limits on robot | Conduct load capacity training. Enforce strict adherence to weight capacity | 01/10/24 | L |
| Robot arm moves incorrectly | Damage to robot, unpredictable movements | Damage to surrounding area and self | Calibration before use. Routine maintenance. | Increase fail safes. Ensure regular maintenance routines. | 01/10/24 | L |
| Incorrect manual handling | Damage to self and surrounding area | Injuries to self, robot and surrounding area | Manual handling training. Lifting aids | Refresher training. Have a supervisor present | 01/10/24 | L |
| Operating robot when tired or distracted | Reduced reaction time. Accidental interference | Errors leading to improper use. May cause injury and/or damage | Barriers, access control systems | Take breaks, ensure proper sleep. Be alert | 01/10/24 | L |
| Workers entering the robot operating area without proper control | Risk of human injury from robot arm movement | Injury to personnel, interruption of work | Restricted access zones | Install light curtains and emergency stop buttons in operating areas | 01/10/24 | L |
| Robot arms working in close proximity to each other | Collision between the arms, leading to damage or malfunction | Damage to equipment, inefficient operation | Synchronized movements programmed | Enhance collision avoidance algorithms and ensure inter-arm communication protocols | 01/10/24 | L |

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| **Approval of assessment** | I am satisfied that the residual risk with existing controls is acceptable XYes ☐No  OR  I am satisfied that that the proposed controls will reduce risk to an acceptable level. XYes ☐No | Signature | **Daniel McMahon**  **Jennifer Wilson** | Date | 01/10/24 |

**Guidance notes for documenting General Risk Assessments**

**ACTIVITY**

**Briefly describe this hazardous work activity -** E.g. Operating, Handling, Using … (Include names) of hazardous equipment, substances or materials used, and any quantities and concentrations of substance(s) or reaction products.

**ASSOCIATED HAZARDS**

**Plant & Equipment** – noise, vibration, moving parts (crushing, friction, stab, cut, shear), pressure vessels, lifts/hoists/cranes, sharps

**Manual Handling** – repetitive movements, lifting awkwardly, lifting heavy objects

**Work Environment** – moving objects, extremes in temperature, isolation, work at height, allergies to animal bedding, dander and fluids, risk of fire/explosion, slippery surfaces/trip hazards

**People** – potentially violent or volatile clients/interviewees

**Communicable Diseases** – exposure to bodily fluids/infectious materials, animal bites and scratches,

**Environmental** – emissions to atmosphere, discharge to soil and water bodies (including stormwater run-off), nuisance noise & odour, poor ventilation/air quality

**Radiation (non-ionizing)** – including lasers, microwaves or UV light

**Electrical** – plug-in equipment used in ‘hostile’ work environment, exposed conductors, high voltage equipment

**Pathogens** – dealings with pathogenic microorganisms such as bacteria, parasites, fungi or viruses

**GMOs** – dealings with genetically modified organisms

**Cytotoxins** – carcinogens, mutagens or teratogens

**Radiation (ionizing)** – Ionizing radiation source such as radioactive substance or radionuclide, or irradiating apparatus

**Chemical** – hazardous substances, dangerous goods, fumes, dust, compressed gas, hazardous waste

**INHERENT RISK**

Provide details of the harm that could be caused to people or the environment if something goes wrong.

For example: inhalation of fumes, laceration, injury to back, infection, burns to skin or eyes.

Think about what could happen if controls fail or are not in place.

**CONTROL MEASURES**

Note the existing and proposed actions to reduce risk to an acceptable level. Apply the “Hierarchy of Controls”, listed below, when deciding the best control measure to apply. Control types closer the top of the list are preferable.

1. Eliminate the hazard. For example: use a different less dangerous piece of equipment, fix faulty machinery, use safer materials or chemicals

2. Isolate the hazard from the people. Separate people from the danger. For example: use shielding, use lifting equipment or trolleys, remove dust or fumes with exhaust system, lock-out machinery.

3. Change the way the job is done. For example: change work practices, provide training, information and signs, develop work procedures.

4. Use personal protective equipment (PPE), noting specific PPE is required for each job. For example: respirator, hearing protection, gloves. Training and information is required for the use of PPE.

**RESIDUAL RISK LEVEL (H, M, L)**

Estimate risk taking into account the way the activity is run and control measures put in place. The level of risk can be determined by combining consequence and likelihood using the risk matrix from below. Residual risk should be reduced to a level acceptable by management.

**CONSEQUENCE OF HARM -** This is how bad it will be if something does go wrong e.g. the number of people that could be harmed, the severity of injury.

**LIKELIHOOD OF HARM** - Chance of harm occurring is affected by the duration of the activity and its frequency; the number of people doing the activity and the level of exposure to the hazard.

