GENERAL RISK ASSESSMENT TEMPLATE

Work area / operation	CB11.10.403	**Assessor's name**	Connor Rudd, Claire Matthews & Nora Sulaiman
Other persons consulted		**Date of safety assessment**	25/09/2024
Subject Coordinator's Name	Shoudang	Lab Supervisor's Name	Michael Lee

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	Exposed Conductors High Voltage Trip Hazards Electrical Fires	Electrocution Tripping Burns	Labelling faulty equipment Report faults in protocol Circuit Breakers Clean workspace Cable management	Inspect equipment before starting Present to lab supervisor Relocate if trip hazards persist	25/09/2024	L
Accessing robot operating environment and robot malfunctions	Unauthorised access to robot workspace Dynamic part collision Stalling fires	Pinch / crush / entanglement through contact with dynamic robotic arm Tripping Lacerations Burns & Electrocution	Safety interlocks and barriers around robot workspace Regular maintenance and safety checks	Improved training for individuals interacting with environment Electrical/Power Isolation for workspace access	25/09/2024	L
Using inappropriate load on the robot	Broken parts (exposed wires) Falling objects Stalling fires	Lacerations Injury to body Burns Electrocution	Lights on and noise activated when running Given design specs	Understanding or robot specs Ensure peers watch active & running robot Keeping safe distance	25/09/2024	L
Operating robot when tired or distracted	Inaccurate programming Delayed reaction time Failure to follow safety Unexpected robot movements	Destruction of surroundings and objects Lacerations Injury Damaged Robot	Working in pairs Review of implemented code	Take regular breaks Run simulations and test before application to real robot	25/09/2024	L
Collision of external objects (static or dynamic)	Loss of control Fire hazard Broken parts	Burns and electrocution Injury	Emergency stop Fence barriers Fire alarms Pressure sensors in robot	Improved training Collision detection in programming Supervisors	9/10/2024	L

Approval of assessment	I am satisfied that the residual risk with existing controls is acceptable X Yes ☐No OR I am satisfied that that the proposed controls will reduce risk to an acceptable level. X Yes ☐No	Signature	**Connor Rudd, Nora Sulaiman & Claire Matthews**	Date	25/09/2024

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.

		CONSEQUENCE				
		Insignificant	Minor	Moderate	Major	Catastrophic
	Injury/illness consequence	Non-injury incident	Injury/ill health requiring first aid	Injury/ill health medical attention	Injury/ill health requiring hospital admission	Fatality or permanent disabling injury
	Environmental consequence	Minor effects on biological or physical environment	Moderate short term effects but not effecting ecosystem functions	Serious medium-term environmental effects	Very serious long term impairment of ecosystem functions	
LIKELIHOOD: Almost Certain	The event will occur on an annual basis	Moderate	High	High	Critical	Critical
Likely	The event has occurred several times or more in your career	Moderate	Moderate	High	High	Critical
Possible	The event might occur once in your career	Low	Moderate	Moderate	High	High
Unlikely	The event does occur somewhere from time to time	Low	Low	Moderate	Moderate	High
Rare	Heard of something like this occurring somewhere	Low	Low	Low	Moderate	Moderate