

HAZARD MANAGEMENT – RISK ASSESSMENT

Date: 10/05/2023

SINGLE TASK

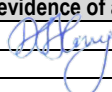
		RECORD THE HIGHEST RESIDUAL RISK RATING Ensure the appropriate level of authority to complete the activity can be evidenced. (e.g. a signature or formal approval attached)		<input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High <input type="checkbox"/> Very high
Title of the task	Use of the CaveX robot			
Physical location(s) or operational unit	The University of Adelaide			
Names of workers involved in completing the risk assessment	Author: Luka Moran (a1726133) Other workers : N/A			
Supervisors/person in control of the area/activity <ul style="list-style-type: none"> Ensure that the control measures address the hazards identified for each step in the process for this task. Ensure that there is a system for retaining this Risk assessment. (See section 5.1 of the Handbook chapter) Ensure that workers who undertake this task have access to this Risk assessment, are provided with the relevant, information, instruction and training required before they undertake the task. (This includes any other guidance material (e.g. Safe operating procedures) where required by this Risk assessment.) Ensure that if there is a requirement for instruction (Level 2 proficiency) and/or training (Level 3 competency/qualification) the information is added to the Training Plan. 				
Hazard identification: Stop and think. What could cause harm from start to finish?		Assess the harm	What needs to be in place before you start?	Re-assess the level of risk
Identify and list each hazard that is part of this work process	Record how/when the worker is exposed to the hazard (e.g. what is the route of exposure when completing the task)	Calculate the risk rating without controls in place (See descriptor table overleaf)	The measures you select must address the hazard, be selected in accordance with the Hierarchy of Control and be clear to the worker. (Refer to the Hierarchy of Control Appendix A page 6 for guidance.)	i.e. the residual risk rating after controls are in place
Manual handling	The worker is required to lift and move the robot.	<input type="checkbox"/> Low <input checked="" type="checkbox"/> Medium <input type="checkbox"/> High <input type="checkbox"/> Very high	The testing rig should be lifted by at least two workers at all times. The testing rig should be oriented vertically on its larger end before lifting and placing it on the trolley. The load should be kept as close to the body as practical. Lifting should be done primarily with the legs. Workers should warm up before lifting if necessary. Workers should discuss the plan to lift the rig before doing so. Verbal communication should be used while lifting where necessary.	<input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High <input type="checkbox"/> Very high
Electrical shock	The worker is required to handle the robot. The robot is comprised of many exposed wires, pins, and electrical components. This presents a risk of electrocution.	<input type="checkbox"/> Low <input checked="" type="checkbox"/> Medium <input type="checkbox"/> High <input type="checkbox"/> Very high	The robot should be turned off when changing components (batteries, microprocessors, sensors, etc). Wires should be contained within the chassis as much as possible. When physically handling the robot, the worker's hands should be placed in an area assessed to be safe at the time.	<input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High <input type="checkbox"/> Very high

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Trip	The worker is required to manually control the robot or set it to an autonomous mode. In either circumstance, the robot may become a trip hazard to anybody in the area of operation.	<input type="checkbox"/> Low <input checked="" type="checkbox"/> Medium <input type="checkbox"/> High <input type="checkbox"/> Very high	When under manual control, the robot's path should be continually monitored to prevent it from causing people to trip over it. When autonomous, the area it is being used in should ideally be cleared of people other than the operator(s). If this is not possible or practical, then the other people in the area should be made aware of when the robot starts being operated and when it's no longer being operated.	<input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High <input type="checkbox"/> Very high
Sharp objects	The worker is required to handle the robot. The robot consists of many wires and rigid edges which present a risk of sustaining cuts.	<input type="checkbox"/> Low <input checked="" type="checkbox"/> Medium <input type="checkbox"/> High <input type="checkbox"/> Very high	Worker will ensure that the robot is picked up with two hands at all times. Hands will be placed on the robot such that the chance of contacting sharp surfaces or objects is minimised.	<input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High <input type="checkbox"/> Very high

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Authorisation for staff and student related tasks

Residual risk rating	Authorisation	Name and signature (or attach evidence of authorisation)
Low & medium risk	Supervisor/Person in control of the area/activity	Assoc. Prof. David Harvey 
High risk	Head of School/Branch	
Very high risk	Executive Dean/Divisional Head	

Proof of hazard identification and risk assessment is required for this task

- ☐ File your completed Risk assessment as instructed by the Supervisor/Person in control of the area/activity
- ☐ Ensure there is a system for retaining formal Risk assessments in accordance with the State Records of SA, General disposal [Schedule No 30](#) issued under the State Records Act 1997. (Contact the University's [Records Management Office](#) for further assistance/information if required.)

For activities with a Residual risk rating of high or very high risk

- ☐ The Head of School/Branch or Executive Dean/Divisional Head is to raise a risk under the [University's Risk management framework](#) through the [University Risk Register](#).

DESCRIPTORS FOR ASSESSING THE LEVEL OF RISK

Likelihood Table

CATEGORY	DESCRIPTION
Almost certain	There is an expectation that an event/incident will occur.
Likely	There is an expectation that an event/incident could occur but not certain to occur.
Possible	This expectation lies somewhere in the midpoint between "could" and "improbable". May happen occasionally.
Unlikely	There is an expectation that an event/incident is doubtful or improbable to occur.
Rare	There is no expectation that the event/incident will occur.

Consequences Table

CATEGORY	DESCRIPTION
Severe	Injury resulting in death, permanent incapacity.
Major	Injury requiring extensive medical treatment (e.g. hospitalisation), or activities could result in a Notifiable occurrence.
Moderate	Injury requires formal medical treatment (e.g. hospital outpatient/doctors visit) Activities could result in an Improvement/Prohibition Notice.
Minor	Injury requires first aid treatment.
Negligible	Injury requires minor first aid (e.g. bandaid), or result in short term discomfort (e.g. bruise, headache, muscular aches), no medical treatment.

The level of risk will increase as the likelihood of harm and its severity increases

Likelihood of exposure	Consequences – level of seriousness of the injury following exposure to the hazard(s) -									
	Negligible		Minor		Moderate		Major		Severe	
Almost certain	<input type="checkbox"/>	Medium	<input type="checkbox"/>	High	<input type="checkbox"/>	Very High	<input type="checkbox"/>	Very High	<input type="checkbox"/>	Very High
Likely	<input type="checkbox"/>	Medium	<input type="checkbox"/>	Medium	<input type="checkbox"/>	High	<input type="checkbox"/>	Very High	<input type="checkbox"/>	Very High
Possible	<input type="checkbox"/>	Low	<input type="checkbox"/>	Medium	<input type="checkbox"/>	High	<input type="checkbox"/>	High	<input type="checkbox"/>	Very High
Unlikely	<input type="checkbox"/>	Low	<input type="checkbox"/>	Low	<input type="checkbox"/>	Medium	<input type="checkbox"/>	Medium	<input type="checkbox"/>	High
Rare	<input type="checkbox"/>	Low	<input type="checkbox"/>	Low	<input type="checkbox"/>	Low	<input type="checkbox"/>	Medium	<input type="checkbox"/>	Medium

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