##

**MITRE SAW**

## Scope

This document is intended to estimate potential human health and environmental risks posed by current and potential future conditions at **State Library of Queensland (State Library) Fabrication Lab** Facility. The risk assessment describes the approach to the risk assessment and facilitates appropriate ways to evaluate current and future risks.

Refer to the **Safe Operating Procedures** (**SOP**) for information regarding the safe usage and checklist for this equipment.

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| Plant/Equipment Description: **Mitre Saw** |
| Leaders:  **Daniel Flood** |
| Room Locations:  **Fabrication Lab** |
| Assessment Date:  **02/03/2020** | Review Date:  **02/03/2021** |

*N.B. This assessment can remain active for up to 5 years. However, an annual monitoring and review process should be undertaken and recorded – refer to the last page of this document.*

*Below are the details of the manufacturing or production processes attributed to this item of equipment categorised by their assessed inherent risk levels (refer to the Equipment/Process Risk Matrix). The actions required for approval for each level of inherent risk are mandatory.*

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| **Inherent Risk Level** | **Details of Processes** | **Action Required/Approval** |
| 🗹 | **High** | * When straight cutting stock of a regular shape that is held securely to the table and fence.
* When straight cutting stock that is free of defects or foreign materials likely to increase cutting risk.
* When the stock width and thickness allows for straight or mitre cuts to be completed cleanly.
* When all long lengths of stock are well supported on both the in and out feed sides.
* When Members are under the appropriate supervision.
 | * A *Plant Risk Assessment* is required to be completed.
 |
| 🗹 | **Extreme** | * When cutting mitres on small pieces of stock less than 200mm long.
* When cutting irregular shaped stock (e.g. wide cove or crown mouldings) where a jig should be used to firmly and securely hold all work.
* When producing compound angular mitre cuts on wide stock (with the work piece clamped securely to the table).
* When Members are NOT always under supervision.
 | * Consider alternatives to using the plant/equipment.
* A *Plant Risk Assessment* is required to be completed.
* JSA may be required.
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Minimum standards

| Minimum qualifications and experience *Listed below are the general “minimum” recommendations for the management of this Plant/Equipment.*🗹 *Indicate the minimum management controls.*  |
| --- |
|  X State Library staff with experience, ability and competency in the safe use of this plant/equipment  *(indicate one or more of the following):*X Specific knowledge of the safe and correct use of this plant/equipmentX Experience (i.e. previous involvement and familiarity) in the safe use of this plant/equipmentX Demonstrated expertise, ability and competency with this plant/equipmentX Documented qualifications relating to the use of this plant/equipment (e.g. in a staff profile) **OR** X A Contractor, other than a State Library staff member, with:X Expertise in the safe and correct use of this plant/equipmentX Documented qualifications that demonstrate experience, ability and competency in the safe use of this plant/equipment. |
|  [ ]  Will any staff require initial and/or ongoing training for the safe use of this plant/equipment?If yes, give details:  |
|  X Will Members be operating this plant/equipment?If yes, state how student use of this plant/equipment will be managed (e.g. Workshop Safety Induction)Give details:  **Only with direct supervision** |
|  Further information if required:  |
|  |
|  Minimum control requirements  |
|  Supporting documentation available in the school on this plant/equipment includes: X Operators ManualX Safe Operating Procedures (SOP)X Equipment Maintenance Records (EMR)X A process for recording student safety induction e.g. member induction register X A process for recording staff training and experience, e.g. Staff induction register |
|  X All guards are in place and in good working order for this plant/equipment  |
|  X Safe Working Zones are defined for this plant/equipment (e.g. yellow lines and/or appropriate signage)  |
|  X Suitable personal protective equipment (PPE) is available to be used by all operators |
|  X This plant/equipment complies with relevant safety standards |
|  Further information if required: **Consider a fixed plant working zone for this equipment** |

Hazards and control measures

*Listed below are indicative hazards/risks and suggested control measures. These are by no means exhaustive lists. Add details of any other hazards/risks or additional controls you intend to implement.*

🗹 *Indicate the control measures adopted. Detail their implementation and any additional controls required.*

| **Hazards/Risks** | **Hierarchy of Recommended** **Control Measures** | **Yes** | **No** | **Details of how this will be implemented***(and any additional controls)* |
| --- | --- | --- | --- | --- |
| **Exposure to Rotating****or Moving Parts:*** **Entanglement and**

**Entrapment**Could hair, clothing, ties, jewellery or other materials become entangled with moving parts of plant or materials in motion?* **Striking**

Could anyone be struck by moving objects such as the work piece being ejected, or by the unexpected or uncontrolled movement of the plant or work piece? * **Crushing and Pinching**

Could anyone be crushed or pinched due to falling, uncontrolled or unexpected movement of plant or its load tipping or rolling over, or contact with moving parts during testing, inspection or maintenance?* **Cutting, Stabbing**

**and Puncturing**Can anyone be cut, stabbed or punctured by coming into contact with moving plant or parts, or objects such as ejected work piece or waste? | 1. Where possible, potentially hazardous portable power tools, including all compound mitre saws (drop saws) are substituted or replaced with less hazardous alternatives.
 | X | [ ]  | **Supervisor to consider the requirements and alternatives** |
| 1. All necessary guards and safety devices are in place protecting workers from all moving parts, particularly the rotating blade.
 | X | [ ]  | **AS per the manufacturer’s standards** |
| 1. Staff and member training is provided to minimise exposure to these hazards and risks.
 | X | [ ]  | **General safety induction and housekeeping procedures** |
| 1. Safe operating procedures (SOPs) are available and clearly displayed.
 | X | [ ]  | **Stored with equipment and in SOP folder** |
| 1. Warning “Danger” tags (or similar) are affixed to all mitre saw power tools under repair or maintenance preventing workers from using the equipment.
 | X | [ ]  | **Standard LOTO procedures** |
| 1. “Safe Working Zones” are clearly defined. Where practical, all compound mitre saws are isolated away from other work activities.
 | [ ]  | X | **Supervisor to assess and address requirements for safe working zone. Consider fixed plant working zone.**  |
| 1. Operators are required to remove all jewellery, tuck in loose clothing and tie back long hair.
 | X | [ ]  | **As per SOP requirements**  |
| 1. All approved personal protective equipment (PPE) is used where required.
 | X | [ ]  | **All PPE is provided as per SOP requirements**  |
| **Slips, Trips, Falls** **and Abrasions:**Can anyone using the plant or in the vicinity of the plant, slip, trip or fall due to the working environment or other factors?e.g. Poor housekeeping, dust on floors, slippery or uneven work surfaces, power cables across work areas causing injuries and abrasions? | 1. Slip resistant flooring is encouraged in workspaces. Regular checks are made for unsafe wear and damage. Inspections are made for any power leads, etc.
 | X | [ ]  | **Anti-slip mats available if required** |
| 1. Procedures are in place for the disposal of all waste materials around all workspaces where any bench or stand mounted mitre saw activities are to be performed.
 | X | [ ]  | **Storage & waste disposal procedures** |
| 1. Staff training is provided to minimise exposure to these hazards.
 | X | [ ]  | **Safety induction** |
| **Environmental:*** **Noise**

Is it likely that the normal operation of this plant will produce excessive noise levels?* **Dust, Fumes and**

**Vapours**Is it likely there will be airborne dust particles, toxic fumes or volatile vapours produced and therefore be present in the workspace?* **Vibration**

Is the normal operation of this plant likely to create severe or excess vibration that could be transferable to the operator?* **Lighting**

Is there insufficient lighting to operate this plant in a safe manner? Is there a possible strobe lighting effect caused by faulty fluorescent tubes in the workspace? | 1. Portable compound mitre saws are regularly maintained to help minimise the risk of exposures to these hazards.
 | X | [ ]  | **Routine checks and maintenance** |
| 1. The compound mitre saw maintenance is documented.
 | X | [ ]  | **Service records** |
| 1. Exposure to noisy workshop environments is monitored and evaluated regularly for all workers.
 | X | [ ]  | **Monitoring of excess noise during operations by supervisor** |
| 1. Engineering controls (or physical changes) such as mandatory machinery guarding or any protective safety screens and enclosures are in place in all workspaces and all in good working condition.
 | X | [ ]  | **General induction training and housekeeping procedures** |
| 1. Staff and member training is provided to minimise exposure to these hazards.
 | X | [ ]  | **General induction training and housekeeping procedures** |
| 1. All ducted dust extraction systems are connected and operational, maintained and cleaned as required.
 | X | [ ]  | **Use of portable dust extraction, workspace air filter and/or dust masks** |
| 1. Good lighting is provided to all workspaces and this is maintained on a regular basis. Fluorescent tubes are checked and replaced as required.
 | X | [ ]  | **As per workspace risk assessment and housekeeping procedures**  |
| 1. All approved personal protective equipment (PPE) is used where required.
 | X | [ ]  | **All PPE is provided as per SOP requirements**  |
| **Electrical:**Can the operator be injured by electrical shock due to working near or contacting with damaged or poorly maintained live electrical conductors such as power outlets, extension leads, safety switches, starters and isolators or casual water on the floor near plant and machinery?  | 1. Visually checks are made of all portable cordless power tools, their electrical switches, plugs, leads and battery charges.
 | X | [ ]  | **Routine checks and maintenance**  |
| 1. Electrical safety inspections, testing and tagging etc. are completed regularly as per guidelines for all cordless portable power tool battery chargers.
 | X | [ ]  | **Annually. As per QLD WHS requirements**  |
| 1. Warning “Danger” tags (or similar) are affixed to all portable cordless power tools or their battery chargers when under repair or maintenance preventing workers from using them.
 | X | [ ]  | **LOTO procedures**  |
| 1. Electrical maintenance on all portable cordless power tools and chargers is documented.
 | X | [ ]  | **Service records**  |
| 1. Visually checks are made of all portable cordless power tools, their electrical switches, plugs, leads and battery charges.
 | X | [ ]  | **Routine checks and maintenance**  |
| **Exposure:*** **Friction**

Is the plant likely to generate heat by friction? Could the plant operator accidentally come into contact with moving materials or machinery components resulting in friction burns to the skin, particularly hands?* **Hazardous**

**Substances**Is it likely that the plant operator or others nearby in the workspace could be exposed to hazardous or toxic chemicals such as volatile vapours, fumes or airborne toxic wood dust particulates? | 1. Portable compound mitre saws are regularly maintained to help minimise the risk of exposures to these hazards.
 | X[ ]  | [ ]  | **Routine checks and maintenance** |
| 1. All portable power tools maintenance is documented.
 | X | [ ]  | **Service Records**  |
| 1. Any potentially hazardous waste materials, toxic wood dust and fumes resulting from this sawing process are monitored.
 | X | [ ]  | **Active monitoring and housekeeping procedures**  |
| 1. Staff and member training is provided to minimise exposure to these hazards.
 | [ ]  | [ ]  | **Safety induction** |
| 1. “Safe Working Zones” are clearly defined. Where practical, all compound mitre saws are isolated away from other work activities.
 | [ ]  | X | **Supervision to assess safe working zone** |
| **Ergonomics and****Manual Handling:**Can the plant be safely operated, in a suitable location, providing clear and unobstructed access? Poorly designed work stations often necessitate teachers and students performing manual tasks involving heavy lifting and lowering, pushing, pulling or carrying, etc. Such tasks then contribute to a range of musculoskeletal sprains and strains for workers.  | 1. Where possible, portable compound mitre saws, their stands and extension supports are planned and adjusted to a comfortable work height thus minimising any unsafe or excessively strenuous manual tasks.
 | X | [ ]  | **Standard working height benches or adjustable stands**  |
| 1. Sufficient workspace is provided to help ensure unobstructed, safe operation.
 | X | [ ]  | **Supervision to assess work zone before beginning**  |
| 1. Floors are regularly cleaned and free of excessive wood dust, waste materials and other extraneous objects.
 | X | [ ]  | **As per standard housekeeping procedures**  |
| 1. Staff training is provided with regard to manual handling techniques and procedures to minimise exposure to these hazards.
 | X | [ ]  | **Safety and manual handling induction** |
| **Explosion and Fire:**As a consequence of using this particular item of plant and equipment, could anyone be injured by the release of stored energy triggered by volatile, explosive substances such as stored gasses, vapours or liquids? Could fire and explosion also result from a build-up of wood dust under the table saw, in the dust extraction system or in confined ceiling spaces? | 1. Fire extinguishers of the correct type are readily available in all workspaces and positioned near exit doorways.
 | [ ]  | [ ]  | **As per Australia Standards**  |
| 1. Staff training is provided regarding procedures for the correct and appropriate use of fire safety equipment.
 | [ ]  | [ ]  | **Staff Fire & Evac training.** |
| 1. Exits from buildings and other work areas are defined & access to them kept clear of obstructions.
 | [ ]  | [ ]  | **As per Australian building codes** |
| 1. Safety signage is posted clearly denoting the location of all fire safety items and emergency exits.
 | [ ]  | [ ]  | **As per Australian building codes** |

| **Other Hazards/Risks** | **Additional Control Measures***These would relate to the specific student needs, locations and conditions in which you are conducting your activity.* |
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| **Approval** |
| Submitted by: Simon Mckellar | Date: 02/03/2020 |
| **[ ]**  | Approved as submitted. |
| **[ ]**  | Approved with the following condition(s):      |
| **[ ]**  | Not Approved for the following reason(s):      |
| By:       | Designation:       |
| Signed: | Date:        |

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| Staff members involved in the use of this risk assessment and the associated plant and equipment: |
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 | *Signature:*  ……………………………….. *Date:**Signature:*  ……………………………….. *Date:* *Signature:*  ……………………………….. *Date:* *Signature:*  ……………………………….. *Date:* *Signature:*  ……………………………….. *Date:* *Signature:*  ……………………………….. *Date:* *Signature:*  ……………………………….. *Date:* *Signature:*  ……………………………….. *Date:*  |

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| **Monitoring and Review***This Plant and Equipment Risk Assessment is to be monitored and reviewed annually for a further four (4) years.* |

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| **Review 1:** | **Yes**  | **No** |
| * Are allocated risk levels and “Actions required” unchanged over the past 12 months?
* Are Minimum Standards and Recommended Control Measures unchanged over 12 months?
* Staffing details have remained unchanged over the past 12 months?
 | [ ] [ ] [ ]  | [ ] [ ] [ ]  |
| If the responses are “NO” for any question, record current details here, and list all staff changes *(with signatures)* |
| Reviewed by:  | Designation:  |
| Signed: | Review Date :  |

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| **Review 2:** | **Yes**  | **No** |
| * Are allocated risk levels and “Actions required” unchanged over the past 12 months?
* Are Minimum Standards and Recommended Control Measures unchanged over 12 months?
* Staffing details have remained unchanged over the past 12 months?
 | [ ] [ ] [ ]  | [ ] [ ] [ ]  |
| If the responses are “NO” for any question, record current details here, and list all staff changes *(with signatures)* |
| Reviewed by:  | Designation:  |
| Signed: | Review Date :  |

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| **Review 3:** | **Yes**  | **No** |
| * Are allocated risk levels and “Actions required” unchanged over the past 12 months?
* Are Minimum Standards and Recommended Control Measures unchanged over 12 months?
* Staffing details have remained unchanged over the past 12 months?
 | [ ] [ ] [ ]  | [ ] [ ] [ ]  |
| If the responses are “NO” for any question, record current details here, and list all staff changes *(with signatures)* |
| Reviewed by:  | Designation:  |
| Signed: | Review Date :  |

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| **Review 4:** | **Yes**  | **No** |
| * Are allocated risk levels and “Actions required” unchanged over the past 12 months?
* Are Minimum Standards and Recommended Control Measures unchanged over 12 months?
* Staffing details have remained unchanged over the past 12 months?
 | [ ] [ ] [ ]  | [ ] [ ] [ ]  |
| If the responses are “NO” for any question, record current details here, and list all staff changes *(with signatures)* |
| Reviewed by:  | Designation:  |
| Signed: | Review Date :  |

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