##

**DRILL PRESS**

## 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 check list for this equipment.

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| Plant/Equipment Description: **Drill press (Bench mounted)** |
| Leaders:  **Daniel Flood**  |
| 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** |
| 🗹 | **Low** | * When drilling holes in timber only using a variety of small twist drill bits or small lip and spur (brad point) bits and under direct teacher supervision.
* When materials can be clamped down or a machine vice is used.
 | * Manage through regular planning processes
 |
| 🗹 | **Medium** | * When drilling holes in timber, metal and plastics using a larger variety of boring bits including twist drills, centre drills, spade bits, masonry bits or lip and spur (brad point) bits.
* When materials can be clamped down or a machine vice is used.
 | * Document controls in planning documents and/or complete this *Plant Risk Assessment*
 |
| 🗹 | **High** | * When drilling holes in timber, metal and plastics using a hole saw with a pilot bit or a “Forstner” bit.
* When materials being machined are always securely clamped down or a machine vice used.
 | * A *Plant Risk Assessment* is required to be completed.
* Supervisor approval prior to conducting this activity is 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/equipment[ ]  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:  |
|  [ ]  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:  **Safety induction and 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 memebr 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:  |

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 plant, machinery and processes, including the drill press, are substituted or replaced with less hazardous alternatives.
 | X | [ ]  | **Supervisor to consider the requirements and alternates** |
| 1. All necessary engineering controls (or physical changes) such as mandatory guarding around the drill chuck and belt pulley covers are in place to protect workers from all moving parts.
 | X | [ ]  | **As per the manufacturer’s standards** |
| 1. Micro switches are fitted that cut off power when covers or guards are opened.
 | X | [ ]  | **As per the manufacturer’s standards** |
| 1. The drill press table allows for a machine [vise](http://en.wikipedia.org/wiki/Vise_%28tool%29) (or other [clamp](http://en.wikipedia.org/wiki/Clamp_%28tool%29)ing device) to be used to position and secure the work piece.
 | X | [ ]  | **Bolt on clamping device**  |
| 1. “Lock Out” or warning “Danger” tags are affixed to all drill press machinery under repair and maintenance.
 | X | [ ]  | **Standard LOTO Procedures** |
| 1. Staff and members training is provided to minimise exposure to these hazards.
 | X | [ ]  | **Safety industion** |
| 1. Safe operating procedures (SOPs) for all drill press machinery are available and clearly displayed.
 | X | [ ]  | **Located with equipment and in SOP folder** |
| 1. “Safe Working Zones” around all drill press machines are clearly defined by yellow safety lines – (or similar)
 | X | [ ]  | **Fixed work Station**  |
| 1. Operators are required to remove all jewellery, tuck in loose clothing and tie back long hair.
 | X | [ ]  | **As per SOP requirements**  |
| 1. All appropriate and 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. 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 the drill press.
 | 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?* **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. All drill press machinery is regularly maintained to help minimise the risk of exposures to these hazards.
 | X | [ ]  | **Routine checks and maintenance**  |
| 1. All drill press machinery maintenance is documented in a register (EMRs).
 | X | [ ]  | **Service records** |
| 1. Exposure to noisy ITD 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 | [ ]  | **As per manufacturers standards** |
| 1. Staff and member training is provided to minimise exposure to these hazards.
 | X | [ ]  |  **General induction training and housekeeping procedures** |
| 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 appropriate and 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. Visual checks are made of all fixed power tools, their electrical switches, plugs and power leads, etc.
 | X | [ ]  | **Routine checks and maintenance**  |
| 1. All drill press machines are fitted with a Direct on Line (DOL) Start/Stop switch - (red and green buttons).
 | X | [ ]  | **As per manufacturers standards** |
| 1. Emergency stop buttons are mounted prominently where necessary.
 | X | [ ]  | **As per manufacturers standards** |
| 1. “Lock Out” or warning “Danger” tags are affixed to all drill press machinery under repair and maintenance.
 | X | [ ]  | **Standard LOTO procedures**  |
| 1. Electrical safety inspections are completed regularly as per guidelines for all drill press machinery.
 | X | [ ]  | **Annually. As per QLD WHS requirements** |
| 1. All drill press mechanical and electrical maintenance is documented in an EMR.
 | X | [ ]  | **Service records** |
|  **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. All drill press machinery is regularly maintained to help minimise the risk of exposures to these hazards.
 | X | [ ]  | **Routine checks and maintenance**  |
| 1. All drill press machinery maintenance is documented in a register (EMRs).
 | X | [ ]  | **Service records** |
| 1. Any hazardous waste materials or toxic dusts and vapours resulting from this drilling and machining process are monitored and managed.
 | X | [ ]  | **Air quality monitoring by Supervisor. Dust extraction and air filter used as required** |
| 1. Staff and student training is provided to minimise exposure to these hazards.
 | X | [ ]  | **General induction training and housekeeping procedures** |
| 1. “Safe Working Zones” around all drill press machinery are clearly defined by yellow safety lines – (or similar).
 | X | [ ]  | **Fixed equipment working zone** |
| 1. All appropriate and approved personal protective equipment (PPE) is used where required.
 | X | [ ]  | **All PPE is provided. As per SOP requirements** |
|  **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. Drill press machines are regularly adjusted to a comfortable work height thus minimising any unsafe or excessively strenuous manual tasks.
 | X | [ ]  | **Use of standard working bench heights and adjustable stands as required** |
| 1. Sufficient workspace is provided in all practical classrooms to help ensure unobstructed, safe operation.
 | X | [ ]  | **Supervisor to assess workspace requirements** |
| 1. Staff and members training is provided with regard to manual handling techniques and procedures to minimise exposure to these hazards.
 | X | [ ]  | **General induction training** |
|  **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 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.
 | X | [ ]  | **As per Australian Standards** |
| 1. Staff training is provided regarding procedures for the correct and appropriate use of fire safety equipment.
 | X | [ ]  | **Annual safety training** |
| 1. Exits from buildings and other work areas are defined and access to them kept clear of obstructions.
 | X | [ ]  | **As per Australian building code**  |
| 1. Safety signage is posted clearly denoting the location of all fire safety items and emergency exits.
 | X | [ ]  | **As per Australian building code** |

| **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 & 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 :  |

|  |  |  |
| --- | --- | --- |
| **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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