##

**PRESSURE CHAMBER**

## 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: **Vacuum Chamber** |
| Leaders:  **Daniel Flood** |
| Locations:  **Fabrication Lab – Machine Shop** |
| 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** |
| 🗹 | **Medium** |

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| * When pressurizing/depressurizing chamber– including all associated components and fixed lines.
* When using chemical compounds.
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 | * Document controls in planning documents and/or complete this *Plant Risk Assessment.*
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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.*  |
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|  X State Library staff member 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/equipment[ ]  Documented qualifications that demonstrate experience, ability and competency in the safe use of this plant/equipment. |
|  [ ]  Will any Edge 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:  **Members use under active supervision** |
|  Further information if required:  |
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|  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)[ ]  A process for recording member safety induction e.g. Member induction register [ ]  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  |
|  [ ]  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)* |
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|  **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?* **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?  | 1. Where possible, potentially hazardous portable power tools, including the stationary air compressor unit, are substituted or replaced with less hazardous alternatives.
 | X | [ ]  | **Use of vacuum chamber to be assessed by supervisor on case by case basis**  |
| 1. “Lock Out” or warning “Danger” tags are affixed to pressure chamber under repair or maintenance preventing members from using the equipment.
 | X | [ ]  | **LOTO procedures**  |
| 1. Safe operating procedures (SOPs) for the stationary air compressor are available and clearly displayed.
 | X | [ ]  | **SOP displayed and in SOP folder** |
| 1. “Safe Working Zones” around the pressure chamber are clearly defined by yellow safety lines or similar.
 | [ ]  | X | **Mobile plant. Supervisor to assess safe work zone** |
| 1. All appropriate and approved personal protective equipment (PPE) is used where required
 | X | [ ]  | **All PPE 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 or air hoses, etc.
 | X | [ ]  | **Slip resistant mats in user zones.** |
| 1. Procedures are in place for the disposal of all waste materials around the fixed air compressor unit.
 | X | [ ]  | **Storage & waste disposal procedures** |
| 1. Staff training is provided to minimise exposure to these hazards.
 | X | [ ]  | **General induction training and housekeeping procedures** |
|  **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? | 1. The unit is regularly maintained. All maintenance is documented in a register.
 | X | [ ]  | **Manufacturer servicing & routine maintenance** |
| 1. Exposure to any noisy environments where pressure chamber units are normally used is monitored.
 | 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. All appropriate and approved personal protective equipment (PPE) is used where required.
 | X | [ ]  | **All PPE provided as per SOP requirements**  |
|  **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. All ducted fumes and vapour extraction systems are regularly maintained and cleaned.
 | X | [ ]  | **Routine checks and maintenance**  |
| 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 | [ ]  | **Safety induction training** |
| 1. Exits from buildings and other work areas are defined and access to them kept clear of obstructions.
2. 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 & the associated plant & 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 at this school 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 :  |