## Plant Inspection, Maintenance and Records

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## 1. OBJECTIVE

To outline RMIT's obligations for the inspection and maintenance of plant and associated record keeping.

## 2. SCOPE

This process applies to all RMIT globally.
NOTE - for the purposes of this document, the term plant applies to both plant and equipment.
NOTE - Referenced legislation applies to Australian jurisdictions only. RMIT campuses in other jurisdiction must refer to local applicable legislation, where available.

## 3. WHAT MUST GO RIGHT?

The 'What must go right?' principles applicable to this process are:

- Plant and equipment are recorded in a plant and equipment register and maintained as required to ensure continued safe operation.
- Records of plant and equipment inspections, maintenance and testing are kept
- Plant and equipment are registered as required by local regulators or authorities.


## 4. Procedure/ Implementation

Senior Leaders must ensure that a documented inspection, service, maintenance and cleaning schedule is developed, implemented and records maintained for all plant and equipment,

### 4.1. Inspecting Plant

Plant must be regularly inspected to identify any:

- potential problems that were not anticipated during plant design or task analysis
- $\quad$ deficiencies in plant or the equipment associated with use of plant (e.g. wearing, corrosion, cracking and damaged plant parts)
- adverse effects of changes in processes or materials associated with plant
- inadequacies in risk controls that have been previously implemented

Any person in control of plant must ensure that maintenance, inspection, and testing of plant is carried out by a competent person. Maintenance, inspection and testing must be done in accordance with the manufacturer's recommendations, or if those are not available, in accordance with recommendations made by a competent person. In most cases required competencies will be outlined in legislation, codes of practice or Australian Standards.

Planning activities should occur to ensure inspection requirements are implemented. Planning should consist of:

- identifying the range of operational activities undertaken
- ascertaining what testing, inspection and monitoring requirements are contained in the inspection, testing and monitoring matrix or as stated in legislation, Australian standards, codes of practice and/or operating manuals, and
- $\quad$ developing a schedule for inspection, testing and monitoring activities.

Specialised equipment used for inspecting plant must meet requirements of the relevant Australian standard, code of practice or other local related regulations and/or requirements. The equipment must be calibrated and adjusted according to intervals in accordance with relevant standards and manufacturers requirements. Storage environments can also affect the integrity of the equipment and its calibration. If the equipment is supplied and used by third parties, there must be confirmation that the equipment has been correctly calibrated and maintained.

Records of inspections are required to be maintained in accordance with HR - HSW-PRO4 - HSW Records
Management and made available to relevant staff, students, researchers and third parties. The record keeping requirements for items requiring inspection are derived from legislation, codes of practice and Australian standards and are listed in the Inspection and Testing Matrix (Appendix A). As a minimum, records must include details of inspections, maintenance, repair, calibration and alteration of plant.

Qualifications, licences or other accreditation of personnel conducting inspection and testing are required to be kept by the person responsible overseeing the inspection and testing.

### 4.2. Maintenance, Repair and Cleaning of Plant

Unsafe plant and equipment can be identified via several methods recommended in the RMIT Risk Management guidelines (HR - HSW-PR09 - HSW Risk Management). Common techniques include:

- equipment inspections
- pre-operational checks, and
- hazard and incident reporting.

Once the unsafe plant/equipment is identified, it is to be withdrawn from service or quarantined, isolated or 'locked out' so that it cannot be operated. For further information on isolation and lock out refer to HR - HSW-PR52 - Lock out \& Tag out.

If a repair to plant/equipment is required to be completed by Property Services Group (PSG) this should be reported through the local Service Desk. Additionally, if the plant/equipment is deemed to be unsafe, the hazard is to be reported in PRIME.

Specifications for the maintenance and repair of plant are generally established by the manufacturer. In the absence of such specification, plant/equipment needs to be repaired and maintained in accordance with the recommendations of a competent person. Any maintenance, repair and cleaning must be performed by a competent person. In most cases these competencies will be outlined in legislation, codes of practice or Australian standards.

Where plant/equipment requires to be cleaned, serviced or repaired, controls must be implemented to ensure the safety of persons working on the plant/equipment and others such as members of the public.

Plant must be isolated from power or energy sources before maintenance or cleaning commences in accordance with HR - HSW-PR52 - Lock out \& Tag out. When there is a need to operate plant/equipment during maintenance or cleaning, provisions must be made to ensure that the operator's controls allow the safe operation of the plant while a person is undertaking the maintenance or cleaning. Lock out devices or other suitable controls must be in place to prevent equipment being accidentally started in an unsafe state.

If hazards cannot be eliminated, a risk assessment must be undertaken prior to the completion of the work to ensure that appropriate controls are used to protect persons working on or near plant/equipment during cleaning maintenance, repairs

### 4.3. Damaged plant

When plant is damaged to a point where it does not function as designed and intended or it poses a risk to health and safety, it must be locked out / tagged out and the relevant supervisor notified. Further requirements are detailed below and in the HR - HSW-PR52 - Lock out and Tag out process.

Operational Leaders are to ensure that an assessment of the damage is carried out. The assessment needs to identify the nature of the damage, whether the damage can be repaired, and what repairs are necessary. The repair, inspection and any necessary testing of the plant must be carried out while ensuring that the plant remains within its design limits.

If the assessment indicates that the function and condition of plant is impaired or damaged and it presents an immediate risk to health and safety, the plant needs to be made inoperable and locked out/tagged out until:

- the risk is controlled,
- the plant is repaired, or
- the plant is decommissioned, dismantled and removed if unable to be repaired.


### 4.4. Records

All records for design or item registration, tests, inspections, maintenance, commissioning, decommissioning, alterations and any other relevant information on plant/equipment must be kept until the plant/equipment is no longer controlled by RMIT. The HR - HSW-PR37-TM01 - Plant and Equipment Register Template may be utilised for this purpose.

Records must be available for inspection and for any person who might relinquish control of the plant/equipment.
Any records for pressure sensing safeguarding system at a workplace must also be kept. Records of safety integrity tests, inspections, maintenance, commissioning, decommissioning, dismantling or alteration must be kept for the life of the plant or until control is relinquished by RMIT.

RMIT must ensure that any record of inspections and maintenance carried out on certain plant is retained for the period that RMIT has management or control of that plant (Occupational Health and Safety Regulations (VIC). The type of plant for which these records are required includes:

- Tower Cranes
- Self-erecting tower cranes
- Building Maintenance Units (BMUs)
- Mobile Cranes
- Truck-mounted concrete-placing units
- Amusement rides
- Lifts
- Gas cylinders
- Pressure vessels
- Amusement structures to which AS3533.1—Amusement rides and devices—Part 1: Design and construction applies, other than amusement structures determined by AS 3533.1 to be class 1
- Boilers with a hazard level A, B or C as determined by AS 4343 Pressure equipment—Hazard levels
- Lifts
- Pressure vessels with a hazard level A, B or C as determined by AS 4343 Pressure equipment—Hazard levels, other than
(i) Gas cylinders to which AS 2030—Gas Cylinders applies; and
(ii) Liquefied petroleum gas fuel vessels for automotive use to which AS/NZS 3509—LP Gas fuel vessels for automotive use applies; and
(iii) Serially produced vessels to which AS 2971—Serially produced pressure vessels applies.

Additional detail around records management is available in HR - HSW-PR37 - Plant and Equipment Safety.

## 5. Responsibilities

### 5.1. Senior Leaders

- Ensure there are resources available to implement this work instruction in their area of control
- Ensure mechanisms are in place for effective and meaningful consultation regarding matters relating to this work instruction.
- Ensure staff, students, researchers and third parties are provided with necessary information, instruction, supervision, and training relating to this work instruction.
- Review applicable performance indicators to this work instruction on a regular basis


### 5.2. Operational Leaders

- Ensure resourcing is available within the area of responsibility to ensure the implementation of this work instruction.
- Ensure and participate in effective and meaningful consultation and communication regarding matters relating to this work instruction.
- Ensure that staff, students, researchers and third parties are aware of the reporting processes in line with RMIT's Incident and Hazard Reporting process.
- Ensure that all incidents, near misses, hazards and risks associated with plant and equipment are reported, investigated and actioned in accordance with the GSM.
- Maintain records related to plant and equipment inspection and maintenance
- Develop safe work procedures for inspection and maintenance of plant and equipment
- Monitor compliance with this process and report on outcome


### 5.3. HSW Team

- Regularly review this process in consultation with relevant stakeholders
- Develop and report on KPIs and relevant to this process
- Monitor compliance with this process and report on outcomes


### 5.4. Staff, Students, Researchers and Third Parties

- Take reasonable care when using plant and equipment to ensure their own health and safety, and that of others.
- Ensure plant and equipment is used only for the purpose with which it was designed
- Undertake relevant plant and equipment instruction, induction and/or training
- Report hazards or incidents associated with plant and equipment
- Follow this process and all reasonable instructions relating to plant and equipment


## 6. Definitions

Defines any key terms and acronyms relating to the process where they app
Term / acronym Definition

Hierarchy of Controls The hierarchy of control is a step-by-step approach to eliminating or reducing risks and it ranks risk controls from the highest level of protection and reliability through to the lowest and least reliable protection

Plant
Plant includes machinery, equipment, appliances, laboratory instruments, containers, implements and tools and any components or anything fitted or connected to those things. Plant includes items as diverse as lifts, cranes, computers, machinery, conveyors, forklifts, vehicles, power tools, quad bikes, mobile plant and amusement devices. Plant that relies exclusively on manual power for its operation and is designed to be primarily supported by hand, for example a screwdriver, is not covered by the WHS Regulations. The general duty of care under the WHS Act applies to this type of plant.

## 7. Supporting Documents

Lists the supporting and related Processes and Guidance Material, Legislative references, Australian and International Standards etc. that may be useful references for process users

- HR - HSW-PRO4 - HSW Records Management
- HR - HSW-PRO9 - HSW Risk Management
- HR - HSW-PR37- Plant and Equipment Safety
- HR - HSW-PR37-TM01 - Plant and Equipment Register Template
- HR - HSW-PR52 - Lock out \& Tag out
- Occupational Health and Safety Regulations (Vic)

8. APPENDIX A - Inspection and Testing Matrix

| Category | Item | Responsibility | Inspection and Testing Requirements, Records and Frequency | Applicable Legislation, Codes of Practice or Standards | Minimum Competency Requirements for Testing and Inspecting and Return to Service |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Fire Protection Systems and Equipment | Automatic Fire Sprinkler Systems | - Property Services Group (PSG). <br> - Business Partner, PSG. | As per AS1851, Section 2 - specifically: <br> Table 2.4.2.1, Table 2.4.2.2, Table 2.4.2.3, <br> Table 2.4.2.4 <br> Table 2.4.3.1, Table 2.4.3.2, Table 2.4.3.3, <br> Table 2.4.3.4 <br> Table 2.4.4.1, Table 2.4.4.2, Table 2.4.4.3, Table 2.4.4.4 <br> Table 2.4.5.1, Table 2.4.5.2, Table 2.4.5.3, Table 2.4.5.4 | AS 1851 | - Certificate II in Asset Maintenance (Fire Protection Equipment PRM20404) <br> - Certificate III in Asset Maintenance (Fire Protection Equipment PRM30404) <br> - Certificate III in Fire Protection (BCP30503) <br> - Certificate IV qualification in Asset Maintenance (Fire Protection Systems Inspection) (PRM40704) |
|  | Fire Pump sets | - Property Services Group (PSG). <br> - Business Partner, PSG. | As per AS1851, Section 3 - specifically: <br> Table 3.4.1 <br> Table 3.4.2 <br> Table 3.4.3 <br> Table 3.4.4 <br> Table 3.4.5.1, Table 3.4.5.2 | AS 1851 | - Certificate II in Asset Maintenance (Fire Protection Equipment PRM20404) <br> - Certificate III in Asset Maintenance (Fire Protection Equipment PRM30404) <br> - Certificate III in Fire Protection (BCP30503) <br> - Certificate IV qualification in Asset Maintenance (Fire Protection Systems Inspection) (PRM40704) |
|  | Fire hydrant systems | - Property Services Group (PSG). <br> - Business Partner, PSG. | As per AS1851, Section 4 - specifically: <br> Table 4.4.1, <br> Table 4.4.2, <br> Table 4.4.3 <br> Table 4.4.4 | AS 1851 | - Certificate II in Asset Maintenance (Fire Protection Equipment PRM20404) <br> - Certificate III in Asset Maintenance (Fire Protection Equipment PRM30404) <br> - Certificate III in Fire Protection (BCP30503) <br> - Certificate IV qualification in Asset Maintenance (Fire Protection Systems Inspection) (PRM40704) |
|  | Water Storage Tanksfor Fire Protection Systems | - Property Services Group (PSG). | As per AS1851, Section 5 - specifically: <br> Table 5.4.1 <br> Table 5.4.2 <br> Table 5.4.3 <br> Table 5.4.4 | AS 1851 | - Certificate II in Asset Maintenance (Fire Protection Equipment PRM20404) <br> - Certificate III in Asset Maintenance (Fire Protection Equipment PRM30404) <br> - Certificate III in Fire Protection (BCP30503) <br> - Certificate IV qualification in Asset Maintenance (Fire Protection Systems Inspection) (PRM40704) |
|  | Fire Detection andAlarm Systems | - Property Services Group (PSG). <br> - Business Partner, PSG. | As per AS1851, Section 6 - specifically: <br> Table 6.4.1.2, Table 6.4.1.3, Table 6.4.1.4, <br> Table 6.4.1.5 <br> Table 6.4.2.2, Table 6.4.2.3 <br> Table 6.4.3.1, Table 6.4.3.2, Table 6.4.3.3 <br> Table 6.4.4.1 | AS 1851 | - Certificate II in Asset Maintenance (Fire Protection Equipment PRM20404) <br> - Certificate III in Asset Maintenance (Fire Protection Equipment PRM30404) <br> - Certificate III in Fire Protection (BCP30503) <br> - Certificate IV qualification in Asset Maintenance (Fire Protection Systems Inspection) (PRM40704) |
|  | Special Hazard Systems | - Property Services Group (PSG). <br> - Business Partner, PSG. | As per AS1851, Section 7 - specifically: <br> Table 7.4.2 <br> Table 7.4.3 <br> Table 7.4.4, <br> Table 7.4.5 | AS 1851 | - Certificate II in Asset Maintenance (Fire Protection Equipment PRM20404) <br> - Certificate III in Asset Maintenance (Fire Protection Equipment PRM30404) <br> - Certificate III in Fire Protection (BCP30503) <br> - Certificate IV qualification in Asset Maintenance (Fire |


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| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Emergency Planning inFacilities | - Property Services Group (PSG). <br> - Business Partner, PSG. | As per AS1851, Section 14 - specifically: <br> Table 14.4.1 <br> Table 14.4.2 <br> Table 14.4.3 | AS 1851 | - Certificate II in Asset Maintenance (Fire Protection Equipment PRM20404) <br> - Certificate III in Asset Maintenance (Fire Protection Equipment PRM30404) <br> - Certificate III in Fire Protection (BCP30503) <br> - Certificate IV qualification in Asset Maintenance (Fire Protection Systems Inspection) (PRM40704) |
|  | Emergency EscapeLighting and Exit Signs for Buildings | - Property Services Group (PSG). <br> - Business Partner, PSG. | As per AS2293.2, Sections 2 and 3. | AS/NZS 2293.2 | - Must be completed in accordance to procedures outlined in AS/NZS 2293.2:1995. Competencies not defined. |
| Plant and Equipment | Standby power systems | - Property Services Group (PSG). <br> - Business Partner, PSG. | AS3009, Appendix B. | - Nil Guidance: <br> - AS3009 (hospitals) | N/A |
|  | Lifts | - Property Services Group (PSG). <br> - Business Partner, PSG. | - As per AS 1735.2 <br> - Registration - Yearly. | - OHS Regulation (VIC) <br> - AS1735.2 | Qualified Lift Inspector |
|  | Electrical Appliances,Leads and RCD Units | - Management of local areas | - As per RMIT Electrical Safety process <br> - AS/NZS3760 <br> - AS3190 | - OHS Regulation (VIC); <br> - RMIT Electrical Safety process; <br> - AS/NZS3760 <br> - AS3190. | - Electrical certification <br> - Understanding requirements of AS/NZS 3190:2011 |
|  | Electrical Protection Devices | - Property Services Group (PSG). <br> - Management of local areas | - As per AS/NZS3760, Table 4. <br> - As per RMIT Electrical Safety process. | - OHS Regulation (VIC); <br> - RMIT Electrical Safety process; <br> - AS/NZS3760 <br> - AS3190. | - Electrical certification <br> - Understanding requirements of AS/NZS 3190:2011 |
|  | Water Temperature Controls | - Property Services Group (PSG). <br> - Business Partner, PSG. | As per AS4032.3, Section 2. | AS4032.3-2004. | Understanding requirements AS 402.3-2004 |
|  | Backflow Prevention Devices | - Property Services Group (PSG). <br> - Business Partner, PSG. | As per AS/NZS 2845.3, Section 2. | AS/NZS2845.3-2020 | Understanding requirements AS 2845.3-2010 |
|  | Boilers and Pressure Vessels | - Property Services Group (PSG). <br> - Business Partner, PSG. | - As per AS/NZS 3788, Sections 2 and 4. <br> - Registration - Yearly. | - AS/NZS3788; <br> - OHS Regulation (VIC) | Competency of a person or body may be demonstrated through an appropriate combination of the evidence listed in Table V1 in AS/NZS 3788:2006 (e.g. relevant knowledge, experience, training, third party assessment or certification, etc). |
|  | Cooling Towers | - Property Services Group (PSG). <br> - Business Partner, PSG. | As per AS3666.3, Section 3. | - AS3666.2; <br> - AS3666.3; <br> - Local government requirements. | Understanding requirements AS/NZS 3666.3:2011 and AS/NZS 3666.2:2011. |
|  | Fume Cupboards | - Property Services Group (PSG). <br> - Business Partner, PSG. | - AS/NZS 2243.8, Section 5.5 and Appendix F. <br> - AS/NZS 2243.9, Section 7 and Appendices | - AS2243.8 <br> - AS2243.9 | Understanding requirements of AS/NZ 2243.8 - Safety in Laboratories - Fume Cupboards and AS/NZ 2243.9-Safety in Laboratories - Recirculating fume cabinets |
|  | Machinery controls, interlocks and guardingincluding emergency stop points | - Management of local areas OR <br> - Property Services Group (PSG). <br> - Business Partner, PSG. | As per AS 4024.1 | AS 4024.1 | N/A |

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|  | Fall Arrest Systems | - Property Services Group (PSG). <br> - Business Partner, PSG. | As per AS 1891.4, Section 9. | AS1891.4 | Height safety operator who has been trained and assessed as competent in carrying out the operator inspections specified in clause 9.2 in AS/NZS 1891.4:2009. |
|  | Synthetic Fibre Rope Slings | - Property Services Group (PSG). <br> - Business Partner, PSG. <br> - Management of local areas | As per AS4497, Section 4. | AS4497 | Competent user who understands requirements of AS 4497.21997. |
|  | Flat Synthetic- Webbing Slings | - Property Services Group (PSG). <br> - Business Partner, PSG. <br> - Management of local areas | As per AS1353.2, Section 9. | AS1353.2-1997 | Person competent in inspecting and testing flat synthetic webbing slings according to requirements in AS1353.2-1997 |
|  | Chain Slings | - Management of local areas | As per AS3775.2, Section 9. | AS3775.2-2004 | Person competent in inspecting and testing chain slings according to requirements in AS 3775.2-2004 |
|  | Wire-rope slings | - Management of local areas | As per 1666.2, Section 10. | AS1666.2 | Periodic inspection shall be conducted by a competent who understands the requirements of AS 1666.2-2009 person and appropriate records shall be kept. |
|  | Autoclave | - Property Services Group (PSG). <br> - Business Partner, PSG. <br> - Management of local areas | As per AS2243.3, Section 6.6.3(k) | AS2243.3 | Person competent in inspecting and testing an Autoclave according to requirements in AS/NZS 2243.3:2010. |
|  | Biological SafetyCabinets | - Property Services Group (PSG). <br> - Business Partner, PSG. <br> - Management of local areas | As per AS2243.3, Section 6.7.4.1(d) | AS2243.3 | Person competent in inspecting and testing a Biological Safety Cabinets according to requirements in AS/NZS 2243.3:2010. |
|  | Emergency Eyewash and Shower Equipment | - Property Services Group (PSG). <br> - Business Partner, PSG. <br> - Management of local areas | As per AS4775, Sections 6, 7 and 8. | AS4775:2007 | Person competent in inspecting and testing safety showers and eyewash facilities according to requirements in AS/NZS 4775:2007. |
|  | Powered IndustrialTrucks (Forklift Trucks) | - Management of local areas | - As per AS 2359.2, Section 6 | AS2359.6 |  |
|  | Compressor | - Property Services Group (PSG). <br> - Business Partner, PSG. <br> - Management of local areas |  |  |  |
|  | Gas Cylinders | - Property Services Group (PSG). <br> - Business Partner, PSG. <br> - Management of local areas | AS2030 | AS2030 | Person competent in inspecting and testing gas cylinders in accordance with the relevant parts of AS 2030, of AS 2337.1, and of the other relevant Parts of AS 2337. |
|  | Cranes, hoists andwinches | - Property Services Group (PSG) <br> - Management of local areas | - AS1418 Cranes, hoists and winches <br> - AS2550 Cranes, hoists and winches | - AS1418 <br> - AS2550 | Person competent in inspecting and testing cranes, hoists and winches in accordance with the applicable parts of AS 1418.1, 2550.1. |
| Facilities | Physical containmentfacility (Levels 1-4) | - Management of local areas <br> - GTRC | As per AS2243.3 and yearly GTRC Inspections | - AS2243.3; <br> - Gene Technology Act and Regulation | Person competent in inspecting and testing requirements outlined in 2243.3:2010. |
|  | Radiation laboratory | - Management of local areas | As per AS2243.1 | - AS2243.4; <br> - AS2243.5 | Person competent in inspecting and testing requirements outlined in 2243.4. |
| Miscellaneous | First aid kits | - Management of local areas | RMIT First Aid Guidelines | - OHS Regulation (VIC); <br> - Compliance Code: First Aid in | TBA |


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