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## 1. OBJECTIVE

To ensure the safe use of plant and equipment at RMIT by implementing safe systems of work and learning to minimise the risks associated with plant, to as low as reasonably practicable.

## 2. BACKGROUND

N/A

## 3. SCOPE

This process applies to RMIT globally.

Plant and equipment not included in this process (or covered under the *Occupational Health and Safety Regulations 2017 (VIC)*, the *Regulations*) is plant and equipment that:

- relies exclusively on manual power for its operation; or
- is designed to be primarily supported by hand.
- ship, boat, aircraft or a vehicle designed to be used primarily as a means of transport on a public road or rail, unless the vehicle is being used at a workplace.

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.

## 4. WHAT MUST GO RIGHT?

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

- Plant risks are systematically identified, assessed and controlled to eliminate or reduce the risk of harm. This includes prior to purchasing, modifying or manufacturing plant.
- Safe systems of work and learning are developed, documented and effectively implemented
- All staff, students, researchers and third parties who purchase, use and maintain plant understand the risks and controls associated with the plant.
- All staff, students, researchers and third parties are provided with and undertake training in the safe operation of plant
- Plant is maintained as per the manufacturer’s instructions and recommendations and/or other requirements as regulated and/or detailed in applicable Standard(s) to ensure continued safe operation.
- Records of inspections, repairs and maintenance is maintained
- Plant and/or plant design is Registered as required with local regulators and/or authorities.

## 5. PROCEDURE / IMPLEMENTATION

### 5.1. What is plant

Generally, plant require generated energy (electrical, mechanical, chemical, hydraulic, pneumatic) to operate. Plant includes any machinery, equipment, appliance, implement or tool. It also includes any part of that machinery, equipment, appliance, implement or tool and anything fitted, connected or related to any of those things.

Furthermore, the *Regulations* specifically cover:

- plant that processes material by way of a mechanical action that:
  - cuts, drills, punches or grinds the material; or
  - presses, forms, hammers, joins or moulds the material; or
  - combines, mixes, sorts, packages, assembles, knits or weaves the material
- plant that lifts or moves persons or materials
- pressure equipment
- tractors
- earthmoving machinery
- lasers
- radiation equipment
- explosive-powered tools
- turbines
- amusement structures

**NOTE** – Additional requirements around lasers are detailed in **HR – HSW-PR46 – Laser Safety Guidelines**.

**NOTE** – Additional requirements around radiation are detailed in **HR – HSW-PR40 – Radiation**.

There is plant which do not require generated energy to operate / use but are considered plant under the **Regulations**. They are:

- scaffolds
- temporary access equipment

## 5.2. Plant Risk Management

RMIT is required to identify and control all hazards associated with the lifecycle of plant and equipment. This includes purchase, installation, erection, commissioning, use, service/maintenance, decommissioning, dismantling, and disposal of plant, as well as the systems of work and learning associated with that plant. Senior and Operational Leaders are to ensure compliance with RMIT's risk management process (**HSW-PR09 - HSW Risk Management**) and relevant legislative and regulatory requirements for plant risk management.

Hazard identification and risk assessment must be completed:

- For all existing plant and equipment at the respective work and learning environment
- Prior to purchasing new or used plant or equipment
- Prior to new or used plant or equipment being used for the first time
- When staff, students, researchers or third parties build or modify plant or equipment
- When there has been a change in the processes or plant / equipment used
- When staff, students, researchers or third parties raises an issue

A review of any existing risk assessment must be completed:

- if there has been an incident or near miss involving plant or equipment
- periodically as detailed in **HSW-PR09 - HSW Risk Management**

Risk assessments of plant must be completed using **HR – HSW-PR37-TM01– HSW Plant and Equipment Risk Assessment Template**.

The risk management process must include consultation with those who will commission, use, service/maintain, decommission or dispose of the plant, including elected Health and Safety Representative(s) (HSR) where they exist. Consultation must follow RMIT's **HR-HSW-PR07 – Consultation and Communication** process.

### 5.2.1. Plant Hazard Identification

Senior and Operational Leaders are to ensure that all hazards associated with the installation, erection, commissioning, use/operation, decommissioning, dismantling and disposal of plant used for work and learning are identified and assessed for their risks. The hazard identification process must consider where the plant or equipment is used, and the systems of work and learning associated with the plant or equipment.

There are three wide-ranging sources of hazards associated with plant:

Source	Example
<b>Materials or items being processed or internal sources of energy</b>	<ul style="list-style-type: none"> <li>drawing in or trapping</li> <li>entanglement</li> <li>shearing</li> <li>cutting</li> <li>impact hazards</li> <li>crushing</li> <li>stabbing and puncturing</li> <li>friction</li> <li>wearing</li> <li>ejection</li> <li>hot or cold hazards</li> <li>other contact hazards</li> <li>noise</li> <li>release of hazardous substances</li> </ul>
<b>Location of the plant</b>	<ul style="list-style-type: none"> <li>stability, including whether it could roll or fall over</li> <li>the environment it operates in</li> <li>proximity to other structures</li> <li>proximity to people</li> </ul>
<b>Systems of work</b>	<ul style="list-style-type: none"> <li>policies and procedures,</li> <li>definition and allocation of responsibility and accountability,</li> <li>arrangements or systems in place to ensure quality of instruction, competency assessment and/or supervision,</li> <li>systems of communication while performing a task or within the organisation generally,</li> <li>work practices and procedures including maintenance and repair schedules and emergency procedures (e.g. first aid and evacuation).</li> </ul>

The following factors must also be considered when identifying plant hazards:

- tasks undertaken such as operating, clearing blockages, cleaning, adjusting, maintaining, repairing or working on plant
- location such as proximity to other work processes and other fixed or portable plant
- installation of the plant so it is safe and has been done correctly
- production processes such as forming and finishing
- walkways and pedestrian access in the vicinity of plant, including access for routing, operating and maintenance activities
- safe transportation of mobile plant, and
- individual factors such as age, background, knowledge, experience and self-management skills of those who might be operating or come into contact with plant and levels of instruction, training and supervision that may be required.

Additional hazards that must be considered are:

- *Mechanical hazards*, e.g., moving parts, mobile plant, ejection of objects. These hazards may lead to risks of entanglement with machinery, crushing, severing, cutting or puncturing, and/or slips trips and falls.
- *Non-Mechanical Hazards*, e.g., dust, explosive / flammable atmospheres, heat, high intensity light (laser, ultraviolet), steam, radiation, noise, ignition sources, hazardous substances, electrical and pressurised fluid / gas.

### 5.2.2. Plant Risk Assessment

Each of the identified risks (consequences) associated with a hazard must be analysed and assessed to develop an understanding of how harm can be caused. The following must be considered:

- existing health and safety controls
- how work/learning is actually being carried out rather than relying on written manuals and work procedures
- abnormal situations, as well as how things are normally meant to occur
- maintenance and cleaning, as well as breakdowns of equipment and failures of health and safety controls.
- the type of conditions the plant is used in (e.g., in a confined space, muddy or dusty environment)
- the condition of the plant (e.g., missing safety features found on new, used or existing plant, reliability or need for maintenance)
- other people or items of plant in the vicinity
- the type of access provided during the installation, operation or maintenance of plant and in an emergency
- the types of work/learning practices and procedures that exist in relation to plant safety (e.g., isolation to carry out maintenance, emergency shutdown)
- the type of training, information, instruction and/or supervision provided to staff, students, researchers and third parties who may use or be exposed to plant
- the competency of the operators, and
- systems of work, e.g.:
  - the speed of the production process of the plant
  - pedestrian and traffic around the plant
  - manual handling issues such as time spent on repetitive tasks
  - use/operation of plant outside of normal hours
  - work or learning related time pressures that may impact health and safety.

### 5.2.3. Plant Risk Controls

All risks associated with plant must be controlled as far as reasonably practicable and using the hierarchy of controls (refer to **HSW-PR09 - HSW Risk Management**).

When investigating and determining options for risk control measures, stakeholders need to consider whether a risk control measure will introduce additional risks (e.g., the introduction of a forklift to move heavy items could introduce a risk to pedestrians).

The primary duty is to eliminate risks (hierarchy of controls). If the risk cannot be eliminated, it is critical to select the controls that most effectively reduce the risk in the circumstances. This may involve a single risk control or a combination of two or more different controls. For example, protecting people from flying debris when using a concrete cutting saw may involve isolating the work area, guarding the blade and using PPE such as face shields.

When determining the preferred risk control, stakeholders need to consider the time needed for implementation and whether it is necessary to implement interim risk controls, while the preferred risk control is being prepared. For example, if an entanglement risk is assessed as requiring control, it may take some time to modify the plant to incorporate the necessary guards or safeguarding system. Stakeholders need to immediately implement interim risk

controls, such as barricades and safe systems of work until the modifications are complete, if safe to do so. In some circumstances it will be necessary to withdraw the plant from use until new controls are implemented.

### 5.2.4. Hierarchy of Plant Risk Controls

Level	Action
<b>Elimination</b>	<b>Elimination</b> – by replacing existing plant with new plant that has the same function but does not have the hazards that were associated with the old plant. Adoption of purchasing policies that take account of health and safety when buying plant for the work or learning environment can often eliminate risks.
<b>Reduce the risk with one or more of the following:</b> – substitution – isolation – engineering controls	<b>Substitute</b> – using a cordless drill instead of an electric drill if the power cord is in danger in being cut, using electric tugs or pedestrian operated industrial lift truck ('walkie' stacker) instead of a forklift. <b>Isolate</b> – isolation of the plant can be achieved by constructing a booth from which the plant can be operated remotely or placing the plant behind a separating wall. Using <b>engineering controls</b> – such as design controls, guarding and barriers.
<b>Reduce the risk using administrative controls</b>	<b>Administrative controls</b> – warning signs, use of 'lock-out' systems, providing appropriate information, instruction, training and/or supervision
<b>Reduce the risk using personal protective equipment (PPE)</b>	<b>PPE</b> – includes earmuffs, respirators, face masks, hard hats, gloves, aprons, high visibility vests and protective eye wear.

It must be noted that administrative controls and PPE are the least effective in controlling risks because they rely on human behaviour and supervision. In most cases, administrative controls involve the use of safe systems of work/learning to control the risk. If PPE is used, supervisors must ensure that it is appropriate, fits correctly, and is well maintained.

Administrative controls and PPE may be used to supplement higher level risk controls or as an interim risk control until a more effective way of controlling risk can be implemented.

There must not be a reliance exclusively on administrative controls and PPE when higher level risk controls are reasonably practicable.

### 5.2.5. Maintaining Plant Risk Controls

Operational Leaders must ensure that any particular risk control is properly installed, used and maintained. This is to ensure that they perform as originally intended and continue to control risks associated with the use of plant in the work and learning environment.

Maintenance of risk controls needs to include:

- frequent inspections of physical controls such as guards and scaffolding
- visual checks to ensure risk controls that rely on human behaviour are being properly applied by staff, students, researchers and third parties
- testing of engineering controls, safety equipment and PPE
- preventative maintenance of engineering controls and PPE
- any necessary remedial work to ensure physical controls continue to work effectively

Operational Leaders must ensure there are documented maintenance procedures in place to ensure that any defects in risk controls are detected as early as possible. Operational Leaders should always look for ways to improve, extend or replace existing risk controls to ensure they continue to control the risk.

### 5.2.6. Review of Plant Risk Controls

Operational Leaders must review (and if necessary, revise) any methods implemented to control risks associated with plant or associated systems of work/learning in the following circumstances:

- before the plant is used for the first time in the work and learning environment
- before any alteration is made to the plant, any change is made to the way the plant is used or its associated systems of work, including a change in the location of the plant
- if new or additional information about hazards or risks relating to the plant or its associated systems of work becomes available
- after the occurrence of an incident or near miss involving plant or its associated system of work
- if, for any other reason, the risk controls do not adequately control the risks
- after receiving a request from an HSR.

### 5.2.7. Guarding as a Plant Risk Control

When guarding is used as a form of controlling the risks associated with plant, there are further specific duties that RMIT must comply with.

Operational Leaders must ensure that the guarding designed for that purpose will prevent access to the danger area of the plant (so far as reasonably practicable).

RMIT's duties when guarding is used a plant risk control are detailed in **HR – HSW-PR37-WI03 – Guidelines on Plant Guarding**.

## 5.3. Introduction of plant– new, used, hired, leased or manufactured

Senior and Operational Leaders are to ensure that any staff, student, researcher or third party introducing new or used plant (including building new plant) follows the change management process (**HR-HSW-PR11 – Management of HSW Change**) prior to purchase. This includes determining the potential risks associated with the plant via RMIT's **HSW-PR14 – Safety in Design** and **HR – HSW-PR09 – HSW Risk Management**) processes.

Senior and Operational Leaders are to ensure that designers of plant, manufacturers, importers or suppliers provide the necessary documentation to ensure safe operation of plant. This includes the purpose for which the plant was manufactured, results of calculations, analysis, testing or examination, and the conditions necessary for the safe use of the plant. This requirement is regardless of whether the plant is new or used.

### 5.3.1. Hiring or leasing plant

When plant is hired or leased by RMIT for use in the work or learning environment, the supplier must ensure that between any hiring or leasing of the plant (i.e., from one hire agreement/lease to the next), the plant is inspected and maintained as necessary to ensure that any risks arising from the use of the plant is controlled.

Before plant is hired or leased by RMIT, the plant must be assessed to ensure it is suitable for its intended use. The person responsible for hiring or leasing the plant must ensure that the plant has been inspected and maintained by the supplier according to the manufacturer's specifications. This must involve checking logbooks and/or maintenance records.

RMIT must ensure that the supplier provides information about the purpose of the plant and its proper use. If the plant is to be hired for an extended period, RMIT needs to ensure that there will be continued inspection and maintenance of the plant.



During the time that the hired or leased plant is in RMIT's possession, RMIT may have control over the way the plant is used in the work or learning environment. If so, RMIT must provide and maintain plant and associated systems of work that are safe and without risk to health or the environment.

### 5.3.2. *Installing, erecting and commissioning of plant*

Plant must be installed or erected in such a way that there is clear working area around the plant, ensuring that associated risks are able to be controlled. The layout and positioning of the plant should not impact on the entry or exit from the work or learning environment to the extent that it presents a risk.

Plant must not be commissioned, or decommissioned, unless it has been determined that it is safe to do so.

Installation, erection, commissioning, decommissioning and dismantling processes must include inspections that will ensure that risks associated with these activities are monitored.

The person who installs, erects or commissions plant must do so in manner which is safe and without risk to health or the environment. The person must also be qualified, trained and/or experienced in the work process to complete the work safely.

The person who installs, erects or commissions plant must consider the use of the following risk controls during installation, erection and/or commissioning of plant:

- barricades and guarding to prevent access to the area or site
- warning signs to identify dangers
- walkways, elevated work platforms and scaffolds for access by people involved in the installation, erecting or commissioning activities
- positioning of plant in the area or the site to allow adequate clear space around the plant for people requiring access
- a work and learning environment layout that provides safe access to, and exit from the plant
- interim safeguarding during testing and start-up if a final means of safeguarding is not in place and it is not reasonably practicable to do so
- plant is installed or erected following the manufacturer's instructions including ensuring that specialised tools, jigs and appliances necessary to reduce any risk of injury during installation are used
- access to and exit from plant complies with relevant standards or suitable alternative methods are implemented
- plant is stable during installation
- the interaction of plant with people, work and learning processes and other plant is considered
- environmental factors affecting installation and use (e.g., wet conditions) are considered.

The person who installs, erects or commissions plant must notify RMIT of any new risks identified during the installation, erection or commissioning of the plant so that those risks can be controlled.

### 5.3.3. *Positioning of plant in the work and learning environment*

Plant must be positioned so that:

- risks from hot plant (such as friction, molten material, hot gases) are controlled through regulated access, guarding or insulation
- there is sufficient space (suggested 600mm, the minimum width of a walkway) for safe access to the plant for operation, cleaning, maintenance, inspection and emergency evacuation
- the plant does not obstruct doorways, emergency exits and walkways
- the proximity to other plant does not hinder the operation of the plant or work/learning processes
- the plant rests on a suitable foundation where required (e.g. on a concrete floor or other support that ensures the plant is stable and secure)
- ventilation is adequate and suitably directed to deal with the nature and volume of any emissions from the plant

- staff, students, researchers, third parties and others are not exposed to noise levels greater than those stated in the exposure standard for noise under the **Regulations**.

### 5.3.3.1. [Commissioning of plant](#)

Commissioning plant involves performing the necessary adjustments, tests and inspections to ensure plant is working within specified requirements before the plant becomes operational.

A person who commissions plant needs to ensure that:

- the commissioning sequence is in accordance with the design specifications
- tests, such as trial and full functionality runs, are carried out to check that the plant will perform within the design specifications.

### 5.3.4. [Design and manufacture of plant or equipment by RMIT](#)

If plant is manufactured within RMIT (by staff, students, researchers or third parties), RMIT and those involved in their manufacture are considered to be Designers and Manufacturers of plant. This means that RMIT and those involved in the manufacture of plant must comply with the duties of **Designers of Plant and Manufacturers of Plant** detailed in the **Regulations**.

The design and manufacture of new plant and equipment must only be undertaken:

- adhering to the requirements of **HR – HSW-PR14 – Safety in Design** and **HR-HSW-PR11 – Management of HSW Change**,
- after appropriate consultation and communication with key and relevant stakeholders (**HR-HSW-PR07 – Consultation and Communication**),
- after the completion of a risk assessment (**HSW-PR37-TM02 – HSW Plant & Equipment Risk Assessment Template**),
- and receiving authorisation from the relevant Senior Leader.

#### 5.3.4.1. [Duties of Designers Plant and Equipment](#)

In addition to the general duty to control risks, designers have specific obligations under the **Regulations** if they use any of the following risk controls in their designs:

- guarding
- operator controls
- emergency stop controls
- warning devices (including when they must be included on powered mobile plant).

Further details around duties of designers of plant is available in the **WorkSafe Vic Compliance Code “Plant”**.

#### 5.3.4.2. [Design Registration](#)

It is a legislative requirement in Victoria, Australia that certain new plant must have their design registered with the **Regulator** (WorkSafe Victoria). The categories and items of plant where Plant Design Registration is required is detailed below:

- pressure equipment, other than exceptions stated in clause 1.1 of Schedule 2 of the **Regulations**
- tower cranes, other than the foundations or supporting structure and the crane ties of the tower crane
- self-erecting tower cranes
- lifts/ escalators/ moving walks, other than exceptions stated in clause 1.4 of Schedule 2 of the **Regulations**
- building maintenance units
- hoists, with a platform movement of more than 2.4 metres, designed to lift persons
- work boxes suspended from cranes

- amusement structures, to which **AS 3533.1 - Amusement rides and devices – Part 1: Design and construction** applies, other than the exceptions stated in clause 1.8 of Schedule 2 of the **Regulations**
- prefabricated scaffolding, being an integrated system of prefabricated components manufactured in such a way that the possible geometry of assembled scaffolds is predetermined by the designer
- boom-type elevating work platforms
- gantry cranes, with a rated capacity greater than 5 tonnes or bridge cranes with a rated capacity greater than 10 tonnes, and a gantry crane or bridge crane that is designed to handle molten metal or dangerous goods
- vehicle hoists
- mast climbing work platforms
- mobile cranes with a rated capacity greater than 10 tonnes, other than reach stackers
- chairlifts
- concrete-placing booms.

### 5.3.5. Operator Controls

The operation of plant could involve the use of various controls (i.e., operator controls). For example, a control for starting the plant, and stopping the plant under normal operating conditions, a control for setting the speed at which the plant performs a function or processes a material.

Operator controls includes an operational stop control and an emergency stop device.

Any operator controls for the plant must be:

- suitably identified on the plant to indicate their nature and function
- located so they can be readily and conveniently operated by each person using the plant
- located or guarded to prevent unintentional activation, and
- able to be locked into the 'off' position to enable the disconnection of all power

If there is a need for plant to be operated during maintenance or cleaning, the employer must ensure that the plant is provided with controls that:

- permit operation of the plant while a person is undertaking the maintenance or cleaning of the plant
- cannot be operated by any person other than the person who is carrying out the maintenance or cleaning of the plant, and
- allow operation of the plant in such a way that any risk associated with the activities to any person carrying out maintenance or cleaning is controlled.

Operator controls should:

- enable the plant to be 'fail safe' (e.g., when hand pressure is released on a lever controlling up and down movement, the lever will return to the neutral position and movement will stop)
- be within easy reach of the operator
- ensure the intended function can be easily read and understood, particularly in the case of gauges and dials
- ensure the movement of the control is consistent with established convention (e.g., anti-clockwise to open, clockwise to close)
- ensure the desired effect can only occur by intentional operation of a control (e.g., provision of a starting control)
- withstand the rigours of normal use, undue forces and environmental conditions
- be located outside danger zones
- be readily accessible for maintenance

It must only be possible to start plant intentionally (e.g., by manually activating a control provided for that purpose). The same requirement applies when restarting the plant after any stoppage. Each item of plant needs to have a control so the plant or its relevant components can be brought to a complete stop safely.

### 5.3.6. Isolation – Lock out / Tag out

All plant must be fitted with or have the ability to be locked out to keep plant and its components from being set in motion or being re-energised, in order to protect the safety of people during plant inspection, repair, maintenance or cleaning activities.

The Senior Leader must ensure that plant in their area of responsibility have the capability to be fully isolated by local physical separation from energy sources. Plant that cannot be fully isolated may need to be modified so that full isolation may be applied when required.

To ensure that isolation procedures are effective there must be:

- documented isolation procedures available and accessible to the relevant staff, students, researchers and third parties in the work and learning environment
- information, instruction and training provided to staff, students, researchers and third parties involved with the plant
- a supervisor appointed who ensures isolation procedures are applied
- a review of the isolation and plant operation controls and systems are tested once the plant has been isolated and de-energised to ensure the isolation is effective.

An isolation procedure must include the following:

- shutdown of the plant
- identify all energy sources and other hazards
- identify all isolation points
- isolate all energy sources
- de-energise all stored energy
- lock out all isolation points
- tag machinery controls, energy sources and other hazards
- test by trying to reactivate the plant without exposing the tester or others to risk.

Isolation procedures for plant must be developed in consultation with staff, students, researchers and / or third parties who use, inspect, service, maintain and clean plant. No-one may carry out isolations unless trained and authorised.

Further details on isolation (lock out / tag out) are available in the **HR – HSW-PR52 – Lock out and Tag out** process document.

### 5.3.7. Emergency stop devices

An emergency stop device means a device that immediately stops, or effectively isolates the hazardous operation of, an item of plant and requires manual re-setting, but does not include an operational stop control.

If plant includes an emergency stop device, RMIT must ensure that:

- the device is prominent, clearly and durably marked and immediately accessible to each operator of the plant
- any handle, bar or push button associated with the device is coloured red
- the device cannot be adversely affected by electrical or electronic circuit malfunction

Emergency stop devices must not be the only method of controlling risks. They must only be used as a back-up to complement other risk controls.

Once engaged, the emergency stop device needs to remain that way. It must only be possible to disengage the emergency stop device by a deliberate action. Disengaging the emergency stop device must not restart the plant. It must only allow the normal starting sequence to be activated.

In the case of plant or parts of plant designed to work together, stop controls (including emergency stop devices) must be capable of stopping the plant itself as well as all the equipment interrelated to its operation, where continued operation of any related equipment may be dangerous.

### 5.3.8. *Warning devices*

If plant has an emergency warning device, the employer must ensure that the device is positioned on the plant to ensure that the device works in the best way (e.g., flashing lights are located where they will be clearly visible).

#### 5.3.8.1. Automatic audible alarms

Automatic audible alarms are generally fitted to warn of forward or reversing movement. These alarms emit an intermittent sound which is activated when the gear or drive lever is engaged.

If automatic audible alarms are used, the sound should be distinct and clearly audible only in the hazardous area. If several items of plant are using the same warning device, it may be difficult for people to be aware of which item of plant is moving or is about to move. It is also possible that people will become desensitised to the sound, the working/learning environment may be noisy or people may be required to wear PPE such as ear muffs. For this reason, it may be more effective to combine audible alarms with other warning devices, such as flashing lights.

#### 5.3.8.2. Lights

Lights are usually used to warn of forward and reversing movement. These lights are wired to operate continuously or in hazard mode by flashing, usually when reversing. They generally work when the gear or drive lever is engaged

#### 5.3.8.3. Flashing lights

Rotary flashing lights are coloured revolving lights that are usually mounted in a prominent place, such as the top of a vehicle cabin. They must be hard wired so they operate continuously and cannot be turned off by a switch. They are suitable to be used on any plant that moves in the workplace, such as forklifts.

#### 5.3.8.4. Radio sensing devices

Radio sensing devices activate when the operator selects reverse. A light and alarm sounds inside the cabin to alert the operator if a pedestrian is within a predetermined distance from the rear of the plant.

### 5.3.9. *Controlling risks of specific types of plant*

Under the **Regulations**, RMIT has additional duties to control risk associated with the following specific plant used in the work or learning environment:

- powered mobile plant
- tractors
- industrial lift trucks
- electrical plant and plant exposed to electrical hazards
- plant used to lift or suspend loads
- lifts
- scaffolds
- tower cranes

RMIT's duties for specific types of plant is detailed in **HR – HSW-PR37-WI02 – Guidelines for Specific Plant**.

### 5.3.10. *Altering / modifying plant*

No person shall perform modification(s) to plant without a risk assessment (**HSW-PR37-TM02 – HSW Plant & Equipment Risk Assessment Template**) and written authorisation from the relevant Senior Leader, following the **HR-HSW-PR11 – Management of HSW Change** and **HR-HSW-PR07 – Consultation and Communication** processes.

If a plant design or prescribed equipment design is altered due to new measures to control risk or any other reason, the altered design must be registered with the **Regulator**.

If the person altering the plant is not the original designer of plant, the person altering the plant then takes on the duties of the designer under the **Regulations**.

When the plant is altered and before the plant is returned to service, it needs to be inspected to ensure that:

- the plant has been tested, having regard to the altered design specifications and relevant technical standards
- risk controls have been put in place to control any risks created by the alteration in accordance with the hierarchy of control
- staff, students, researchers and third parties are provided with the necessary information, instruction, training and/or supervision to enable them to perform their work/learning safely

### 5.3.11. *Inspection, servicing, maintenance and cleaning of plant*

The requirements around the inspection and maintenance of plant (including damaged plant) and the maintenance of associated records is detailed in **HR – HSW-PR37-WI01 – Plant Inspection, Maintenance & Records**.

### 5.3.12. *Plant not in use*

Plant that is not in use or taken off-line for must be left in a state that poses no risk and steps taken to ensure there is no unauthorised use. This may include disconnection from energy sources and/or initiating lock out/tag out of the plant.

If plant is placed in storage, all associated manuals and documents are to be stored with the plant. Plant brought back into service is to undergo the same level of inspection and testing when it was previously commissioned into use.

Powered mobile plant not in use must be parked on firm and level surface, handbrake or brake applied, motor/power turned off and key removed.

### 5.3.13. *Decommissioning plant*

Decommissioning of plant must only be carried out if it has been established that it is safe to decommission. There must be a safe system of work for the decommissioning work and those persons undertaking the decommissioning are provided with information, training or instruction. The decommissioning work is to be monitored to ensure that controls to mitigate associated risks are effectively implemented.

Plant may require dismantling due to fatigue, corrosion or wear causing the plant to become unstable and thereby creating a hazard of collapse. Due to this alteration in the plant's physical characteristics, those responsible for decommissioning and/or dismantling the plant need to consider risks associated with the dismantling process in addition to those identified in any information or recommendations provided by the designer, manufacturer or supplier. Before dismantling, plant needs to be assessed for any fatigue, cracking, corrosion, wear and other known hazards, to aid identification of structural weaknesses and assist development of safe dismantling procedures.

### 5.3.14. *Disposal of plant*

Where plant to be disposed of contains unsafe materials (e.g. asbestos, hazardous chemicals and substances), the person responsible for disposal needs to ensure that appropriate risk controls are put in place.

Disposing of plant may include reselling (in full or part) or scrapping (waste disposal and/or recycling). If the plant is to be resold for use at a workplace, the seller will take on the **Duties of a Person That Supplies Plant** as detailed in the **Regulations**.

The seller (supplier) needs to ensure that the plant is safe to load, transport, unload and store.

If the plant is to be scrapped, the seller (supplier) must consult with any relevant waste disposal authorities or organisations so that the plant is safe to load, transport, unload and dispose.

If the plant is to be used for scrap material, the supplier must inform the receiver of the plant that it is intended for use as scrap material. This must be done in writing.

### 5.3.15. *Plant and Equipment Register*

All items of plant must be given a unique identification number and entered in a Plant and Equipment Register. **HR – HSW-PR37-TM01 – Plant and Equipment Register Template** may be used for this purpose. The identification number must be permanently affixed to the item of plant. Plant is not to be used until it has been allocated an identification number, the number affixed to the plant and the details recorded in the Plant and Equipment Register.

The Plant and Equipment Register must also record details around:

- make and/or mode of the plant
- manufacturer
- whether a Manufacturer's Manual is available
- whether a risk has been completed and, if so, the risk assessment reference number
- whether a Safe Operating Procedure is available
- whether a Safe Work Instruction is available
- the frequency of inspections, service, maintenance and cleaning
- whether the plant needs to be registered and, if so, the Registration number and Registration expiry date (if applicable)

Some manufacturers provide logbooks to record inspections, service, maintenance and/or cleaning activities and their results or findings. The logbooks must be used to record these activities. If a logbook has not been supplied by the manufacturer, the **HR – HSW-PR37-TM01 – Plant and Equipment Register Template** may be utilised for this purpose.

Logbooks (or copies of the **Plant and Equipment Register**) must be kept for the duration that RMIT has control and ownership of the plant. If plant is sold and is to be used again for the purpose it was intended for, logbooks (or copies of the Register) must be provided to the purchaser of the plant along with other required documents detailed in this process and required under the **Regulations**.

Colleges/ Portfolios may utilise an alternative to logbooks or the Register as long as that alternative method can record the requirements detailed in this process and required under the Regulations, as a minimum.

Senior Leaders are to ensure that supplied logbooks are utilised or Plant and Equipment Register(s) are established or an alternative method of recording is implemented in areas under their control. Operational Leaders are to ensure that logbooks or Plant and Equipment Register(s) or an alternative method of recording is maintained for areas under their control.

### 5.4. Plant Administration

#### 5.4.1. *Instruction and Training*

Each College / Portfolio is responsible for identifying the induction, training and competency requirements of its staff, students, researchers and third parties. All persons required to use or otherwise interact with plant must be provided with induction, training and instruction, incorporating applicable SWIs and SOPs, in the safe operation of plant.

Training records must be maintained in line with **HSW-PR06 Training, Competency and Awareness** and process.

#### 5.4.2. *Safe Work Instruction / Safe Operating Procedure*

A Safe Work Instruction (SWI) details how to undertake a task in a manner which is safe, and risks controlled as far as reasonably practicable – a safe system of work or learning. The SWI will include reference to plant or equipment used in the task (work or learning) and reference the manufacturer's manual.

A Safe Operating Procedure (SOP) specifically details how to operate / use plant or equipment. The manufacturer's manual is generally utilised as the SOP. However, local areas may develop their own SOPs, summarising the manufacturer's manual, ensuring that key operating and safety related points are included as a minimum.

All plant and tasks associated with plant, must have a documented SWI and SOP. Both the SWI and SOP must be made available to all those who use or otherwise interact with the relevant plant and incorporated into associated induction, training and instruction.

##### 5.4.2.1. Emergency Procedures

Safe Work Instructions and Safe Operating Procedures for plant must include associated emergency procedures, including location and activation of emergency stops, should the plant fail during operation or there is an incident which poses an immediate risk to the health and safety of the user(s) and others in the area.

#### 5.4.3. *Pre-start inspection*

Documented pre-start inspections must be carried out on all plant by users before first use for the day or shift. The manufacturer's pre-start checklist must be utilised where it exists and has been provided. Where a manufacturer's pre-start checklist does not exist, local areas must develop a pre-start checklist which must include checking all safety features of the plant, as a minimum, and other critical elements as identified in the associated risk assessment.

Pre-start inspections must be referenced in the SWI applicable to the plant.

#### 5.4.4. *Manufacturer's Manuals*

Manufacturer's manuals must be supplied when plant is purchased. The manual must be in English and available to staff, students, researchers or third parties who use or otherwise interact with the plant. The manuals must be referred to when developing safe systems of work, when developing training programs and when information on the plant is required.

#### 5.4.5. *Permit to Work*

In addition to SWI and SOP, some high-risk tasks associated with plant may require an additional level of control using a permit of authorisation (permit to work). Permits are to be approved by a relevant and suitably trained permit issuer who must be satisfied that all necessary additional conditions have been met and are in place prior to commencing the task. Permits for high-risk work are detailed in **HSW-PR3 – High Risk Work**.



### 5.4.6. High Risk Work Competency

The **Regulations** require that some high-risk work requires the operator to *be deemed competent* (i.e. licensed) in the use of certain plant. Specifically, these are:

License class	VET course
Basic scaffolding	Licence to erect, alter and dismantle scaffolding basic level
Intermediate scaffolding	Licence to erect, alter and dismantle scaffolding basic level; and Licence to erect, alter and dismantle scaffolding intermediate level
Advanced scaffolding	Licence to erect, alter and dismantle scaffolding basic level; and Licence to erect, alter and dismantle scaffolding intermediate level; and Licence to erect, alter and dismantle scaffolding advanced level
Dogging	Licence to perform dogging
Basic rigging	Licence to perform dogging; and Licence to perform rigging basic level
Intermediate rigging	Licence to perform dogging; and Licence to perform rigging basic level; and Licence to perform rigging intermediate level
Advanced rigging	Licence to perform dogging; and Licence to perform rigging basic level; and Licence to perform rigging intermediate level; and Licence to perform rigging advanced level
Tower crane operation	Licence to operate a tower crane
Self-erecting tower crane operation	Licence to operate a self-erecting tower crane
Derrick crane operation	Licence to operate a derrick crane
Portal boom crane operation	Licence to operate a portal boom crane
Bridge and gantry crane operation	Licence to operate a bridge and gantry crane
Vehicle loading crane operation	Licence to operate a vehicle loading crane (capacity 10 metre tonnes and above)
Non-slewing mobile crane operation	Licence to operate a non-slewing mobile crane (greater than 3 tonnes capacity)
Slewing mobile crane operation (up to 20 tonnes)	Licence to operate a slewing mobile crane (up to 20 tonnes)
Slewing mobile crane operation (up to 60 tonnes)	Licence to operate a slewing mobile crane (up to 60 tonnes)
Slewing mobile crane operation (up to 100 tonnes)	Licence to operate a slewing mobile crane (up to 100 tonnes)
Slewing mobile crane operation (open/over 100 tonnes)	Licence to operate a slewing mobile crane (over 100 tonnes)
Reach stacker operation	Licence to operate a reach stacker (greater than 3 tonnes capacity)
Boom-type elevating work platform operation	Licence to operate a boom-type elevating work platform (boom length 11 metres or more)

Materials hoist (cantilever platform) operation	Licence to operate a materials hoist
Hoist (personnel and materials) operation	Licence to operate a personnel and materials hoist
Concrete-placing boom operation	Licence to operate a concrete-placing boom
Forklift truck operation	Licence to operate a forklift truck
Order-picking forklift truck operation	Licence to operate an order-picking forklift truck
Standard boiler operation	Licence to operate a standard boiler
Advanced boiler operation	Licence to operate an advanced boiler
Turbine operation	Licence to operate a steam turbine
Reciprocating steam engine operation	Licence to operate a reciprocating steam engine

Operational Leaders are to ensure that plant listed above is only operated by a person who has a valid licence. A copy of the licence must be taken at the time of delivering relevant induction, training or instruction and kept with the person's induction and/or training records.

### 5.4.7. Incident Management

All incidents and near misses involving plant must be reported to the relevant supervisor as soon as possible and followed up by a written report in PRIME or equivalent. Some incidents may need to be reported to the **Regulator(s)** as prescribed under the **Regulations**. A member of the HSW Team is responsible for reporting notifiable incidents to the **Regulator(s)**.

All incidents and near misses involving plant need to be investigated, corrective actions formulated and assigning responsibility for completing the actions in a timely manner.

Further details on incident reporting and investigations are detailed in the **HR – HSW-PR10 – Incident Management and Investigation** process.

## 6. Responsibilities

### 6.1. Senior Leaders

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

### 6.2. Operational Leaders

- Ensure resourcing is available within the area of responsibility to ensure the implementation of this process and associated adequate safe systems of work.
- Ensure and participate in effective and meaningful consultation and communication regarding matters relating to this process.
- 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 hazard identification, risk assessment and risk control at relevant points in the plant and equipment lifecycle and when training has been conducted
- Develop safe work procedures for plant and equipment and associated tasks
- Ensure staff, students, researchers and third parties are appropriately instructed, inducted and/or trained in the plant and equipment accessed or used and have access to relevant information
- Ensure plant and equipment requirements are communicated to all staff, students, researchers and third parties
- Monitor and review implemented risk controls
- Monitor compliance with this process and report on outcome
- Ensure that risk management forms and SWPs are available for each plant and equipment that could pose HSW risk
- Maintain a plant register/inspection, testing and monitoring schedule to assist with keeping track of inspection and maintenance schedules for equipment

### 6.3. HSW Team

- Facilitate plant and equipment risk assessments where required
- Regularly review this process in consultation with relevant stakeholders
- Develop and report on KPIs relevant to this process
- Monitor compliance with this process and report on outcomes

### 6.4. 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, is not adversely affected.
- 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
- Assist in assessing and controlling the risks of plant and equipment
- Follow this process and all reasonable instructions relating to plant and equipment
- Comply with measures implemented to control risk associated with plant and equipment, including use of personal protective equipment (PPE).

### 6.5. Visitors

- Comply with the requirements of induction
- Take reasonable care for their own health and safety
- Comply with all safety rules and instruction

## 7. Definitions

Defines any key terms and acronyms relating to the process

Term / acronym	Definition
GSM	Global Safety Model. RMIT's Safety Management System

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	<p>Plant and equipment. Plant requires generated energy (electrical, mechanical, chemical, hydraulic, pneumatic) to operate. Plant includes any machinery, equipment, appliance, implement or tool. It also includes any part of that machinery, equipment, appliance, implement or tool and anything fitted, connected or related to any of those things.</p> <p>Specifically:</p> <ul style="list-style-type: none"> <li>• plant that processes material by way of a mechanical action that: <ul style="list-style-type: none"> <li>○ cuts, drills, punches or grinds the material; or</li> <li>○ presses, forms, hammers, joins or moulds the material; or</li> <li>○ combines, mixes, sorts, packages, assembles, knits or weaves the material</li> </ul> </li> <li>• plant that lifts or moves persons or materials</li> <li>• pressure equipment</li> <li>• tractors</li> <li>• earthmoving machinery</li> <li>• lasers</li> <li>• radiation</li> <li>• explosive-powered tools</li> <li>• turbines</li> <li>• amusement structures</li> </ul> <p>There is plant which do not require generated energy to operate / use but are considered plant under the <b>Regulations</b>. They are:</p> <ul style="list-style-type: none"> <li>• scaffolds</li> <li>• temporary access equipment</li> </ul>

## 8. 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-PR04 – HSW Records Management
- HR - HSW-PR07 - Consultation and Communication
- HR - HSW-PR06 - Training, Competency and Awareness
- HR - HSW-PR09 - HSW Risk Management
- HR - HSW-PR09-TM03 - Safe Work Instruction Template
- HR – HSW-PR10 – Incident Management and Investigation
- HR - HSW-PR11 - Management of HSW Change
- HR - HSW-PR14 - Safety in Design
- HR - HSW-PR36 - High Risk Work
- HR – HSW-PR37-WI01 – Plant Inspection, Maintenance and Records
- HR – HSW-PR37-WI02 – Guidelines for Specific Plant
- HR – HSW-PR37-WI03 – Guidelines on Plant Guarding
- HR - HSW-PR37-TM01 - Plant and Equipment Register Template

- HR - HSW-PR37-TM02 – HSW Plant & Equipment Risk Assessment Template
- HR – HSW-PR46 – Laser Safety Guidelines
- HR - HSW-PR52 - Lock Out & Tag Out
- Occupational Health and Safety Act 2004 (VIC)
- Occupational Health and Safety Regulations 2017 (VIC)
- Compliance code – Plant – Edition 2, December 2019 (VIC)