

# HRP04: Plant and Equipment

## Section 1 - Purpose and Scope

- (1) The purpose of this procedure is to ensure the management of risks associated with plant and equipment at Southern Cross University (SCU) are appropriately managed and controlled.
- (2) The purpose of this procedure is to ensure Southern Cross University's management, employees, contractors, students, visitors and others are aware of the risks associated with plant and equipment in the workplace, management strategies and to provide advice on appropriate controls.
- (3) All employees, students and others including both independent contractors and contractors under SCU control are to be made aware of and follow this procedure.
- (4) This Procedure applies to all SCU Work Units and sites. The procedure aligns with WHS legislation in the relevant jurisdictions SCU operates in.

## Section 2 - Definitions

Competent Person	<p>A person who has acquired through training, qualification or experience the knowledge and skills to carry out the task.</p> <p>A competent person has a more specific meaning in the following circumstances:</p> <p>For design verification, the person must have the skills, qualifications, competence, and experience to design the plant or verify the design.</p> <p>For inspecting plant for registration purposes, the person must have:</p> <ol style="list-style-type: none"> <li>1. educational or vocational qualifications in an engineering discipline relevant to the plant being inspected, or</li> <li>2. knowledge of the technical standards relevant to the plant being inspected.</li> </ol> <p>For inspecting mobile cranes, tower cranes, amusement devices and passenger ropeways the person must:</p> <p>have the skills, qualifications, competence, and experience to inspect the plant, and be registered under a law that provides for the registration of professional engineers in jurisdictions where such a law exists or be determined by the regulator to be a competent person.</p>
Hazard	<p>A situation or thing that has the potential to harm a person. Hazards at work may include: noisy machinery, a moving forklift, chemicals, electricity, working at heights, a repetitive job, bullying and violence at the workplace.</p>
Health and safety representative	<p>An employee who has been elected by their work group under the WHS Act to represent them on health and safety matters.</p>
Plant	<p>Plant includes machinery, equipment, appliance, container, implement and tool 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.</p> <p>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.</p> <p>Certain kinds of plant, for example forklifts, cranes, and some pressure equipment, require a licence from the regulator to operate and some high-risk plant must also be registered with the regulator.</p>

Reasonably Practical	Reasonably practicable means that which is, or was at a particular time, reasonably able to be done to ensure health and safety, taking into account and weighing up all relevant matters including: 1. the likelihood of the hazard or the risk concerned occurring. 2. the degree of harm that might result from the hazard or the risk. 3. what the person concerned knows, or ought reasonably to know, about the hazard or risk, and ways of eliminating or minimising the risk. 4. the availability and suitability of ways to eliminate or minimise the risk, and 5. after assessing the extent of the risk and the available ways of eliminating or minimising the risk, the cost associated with available ways of eliminating or minimising the risk, including whether the cost is grossly disproportionate to the risk.
Risk	The possibility harm (death, injury or illness) might occur when exposed to a hazard.
RiskWare	Electronic database for the reporting of all incidents and near misses. RiskWare includes the investigation of incidents against systemic causes, the assignment of corrective actions, and regulatory and performance reporting.
Work group	A group of employees established to facilitate the representation of employees by one or more health and safety representatives. A work group may be all employees at a workplace but it may also be appropriate to split a workplace into multiple work groups where employees share similar work conditions or are exposed to similar risks and hazards. For example all employees on night shift.

## Section 3 - General Principles

(5) SCU minimises the risks arising from the use of plant and equipment to employees, students, contractors and visitors to workplaces by:

- a. Ensuring all employees have access to this procedure and will be inducted in the Workplace Health and Safety Management System including access to contractor induction, licenses and training, plant and equipment maintenance, lock out procedures and pre-start checks.
- b. Ensuring each Work Unit maintains an up-to-date Plant and Equipment Register.
- c. Ensuring plant and equipment within each faculty and work unit is assessed for risks with controls in place, prior to commencing use.
- d. Ensuring Permits for high-risk activities such as work at heights, excavation, lifting, confined space and hot works is completed as per WHSMP09: Permit to Work.
- e. Ensuring all plant and equipment is compliant with Australian standards and are not purchased outside of the SCU procurement process for plant and equipment, including gifted and donated equipment.
- f. Ensuring all safety guards are installed and remain in place throughout the use of the plant and equipment.

(6) Plant is a major cause of work-related death and injury in Australian workplaces. There are significant risks associated with using plant and severe injuries can result from the unsafe use of plant including:

- a. limbs amputated by unguarded moving parts of machines.
- b. being crushed by mobile plant.
- c. sustaining fractures from falls while accessing, operating, or maintaining plant.
- d. being crushed by a quad bike rollover.
- e. electric shock from plant that is not adequately protected or isolated, and
- f. burns or scalds due to contact with hot surfaces, or exposure to flames or hot fluids.

(7) Other risks include hearing loss due to noisy plant and musculoskeletal disorders caused by manually handling or operating poorly designed plant.

## **Limitations**

(8) 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 this procedure.

(9) This procedure does not cover selection and guidance for use of personal protective equipment (PPE).

## **Consultation**

(10) SCU will ensure that documented consultation occurs with employees, health and safety representatives and managers that may be using or affected by the use of plant or equipment and during all phases of equipment/plant acquisition, purchase, hire, use, maintenance and decommissioning.

(11) During the development of safe work instructions (SWI) and safe work method statements (SWMS), SCU employees will be actively involved in the consultation process regarding hazard identifications, risk assessment, control implementation, and providing feedback and monitoring post implementation. If the deviating from the Original Equipment Manufacturer manual, a risk assessment must be completed and the SWI updated.

## **Information, Instruction and Training**

(12) SCU will, so far as is reasonably practicable, ensure the provision of information, training, instructions, or supervision necessary to protect all persons from risks arising from work carried out as part of the conduct of SCU business.

(13) SCU will ensure that the information, training, or instruction is suitable and adequate to address the nature of the work and the degree of risk, confirming employee understanding and the application of controls.

(14) SCU supervisors and operator have a shared responsibility to familiarise themselves with all associated documentation (i.e. operator manuals) to ensure safe operation of plant and equipment.

(15) The training content and format will be tailored according to the level of risk involved. For high-risk construction activities, a SWMS will be formulated, all motorised equipment will be accompanied by a SWI, and for other tasks such as using a portable ladder, a SOP will be provided.

## **Acquisition, purchase or hire of plant**

(16) The person responsible for the purchase, hire or acquisition of plant and equipment in a local area shall:

- a. Ensure that a HRP04 - FOR - 01 - Plant pre-purchase assessment checklist is completed.
- b. Ensure that a risk assessment is conducted in consultation with the supplier, affected employees and in-situ.
- c. Review the assessment for any identified hazards and ensure that existing or new controls are effective in controlling the hazards.
- d. Ensure any statutory requirements are met for design and/or registration with regulatory authorities.
- e. Documentation is to be signed and saved for the life of the plant.
- f. Ensure the plant/equipment is added to the Plant and Equipment Register.
- g. Ensure an Original Equipment Manufacturers Manual is provided, and if applicable, SWIs and SOPs align.

(17) When hiring plant or equipment the person responsible must:

- a. assess whether the plant or equipment is suitable for its intended use,
- b. check that the plant or equipment has been inspected and maintained by the supplier according to the manufacturer's specification e.g. checking logbooks, maintenance manual,
- c. ensure that the supplier provides manufacturer's information.

## Plant registration

(18) Certain items of plant and types of plant design must be registered. Where SCU has management and control of registerable plant a copy of the design registration should be obtained from the supplier to ensure all registerable plant items are registered. Registrable plant is listed in Schedule 5 (Part 1) of the WHS Regulations in NSW and Qld, such as:

- a. Pressure equipment, other than pressure piping, and categorised as hazard level A, B, C or D according to the criteria in section 2.1 of AS 4343:2014 (Pressure equipment—Hazard levels)
- b. Gas cylinders covered by section 1.1 of AS 2030.1:2009 (Gas cylinders—General Requirements)
- c. Lifts, escalators and moving walkways

## Installation

(19) SCU employees responsible for the installation or erection of plant (including scaffolding and Elevated Work Platform) and equipment (including electrical power type and safety devices) in a workplace will take all reasonably practicable steps to ensure that hazards identified with plant have their associated risks effectively controlled. This is to occur before the plant is commissioned for use. If scaffolding is to be used, ensure a Scaffolding Compliance Tag is provided and used, and those erecting a scaffold hold the appropriate tickets and qualifications.

(20) The installer, erector and other people engaged in the installation process will follow designer/manufacture instructions and/or the advice of a competent person and all statutory requirements/standards and the Code of Practice Managing Risks of Plant in the Workplace are to be met.

(21) The installer should ensure:

- a. entry to and exit from plant complies with relevant standards
- b. plant is stable during installation
- c. the interaction of plant with people, work processes and other plant is considered
- d. environmental factors affecting installation and use, for example wet conditions, are considered, and
- e. electrical installations associated with plant comply with Australian Standards.

## Positioning plant in the workplace

(22) Plant shall be positioned so:

- a. risks from hot plant, for example, friction, molten material, hot gases, are controlled through restricted access, guarding or insulation
- b. there is sufficient space (suggested 600 mm, the minimum width of a walkway) for safe access to the plant for operation, cleaning, maintenance, inspection and emergency evacuation
- c. the plant does not obstruct doorways and emergency exits – the proximity to other plant does not have a negative effect on operation of the plant or work processes
- d. the plant rests on a suitable foundation where required, for example on a floor or other support that ensures the plant is stable and secure
- e. ventilation can deal with the nature and volume of emissions from the plant, and
- f. workers and others are not exposed to noise levels greater than those stated in the exposure standard for noise under the WHS Regulation. Consideration could also be given to placing plant in areas with sound insulation or mounting to decrease reverberations which will decrease noise levels.

(23) Plant purchased directly from overseas is assessed for suitability for use in Australia prior to purchase. Attention to the operating voltage and frequency ranges is essential (particularly in the case of three - phase equipment,

whether the rated voltages refer to phase to phase or phase to neutral connection - if the frequency is incorrect, some devices within plant may overheat, lose time or otherwise fail).

## **Commissioning**

(24) Prior to commissioning, plant is checked, tested, and appropriately inspected to minimise risk to health and safety, in accordance with manufacturer and designer recommendations. Plant is not to be placed into operation until the commissioning and testing process is completed by a qualified person, with a handover, to ensure that the plant is:

- a. Appropriate for the task.
- b. Installed or erected suitably to enable work to be undertaken.
- c. Guarding, interlocking, and emergency stops are working as per design.
- d. Confirmed by a certificate or equivalent that it is working according to design and manufacturers' specifications.

(25) The Work Unit commissioning the installation of new plant and equipment via the responsible person will ensure that:

- a. a consultation process has been completed involving employees, health and safety representatives and managers affected.
- b. written operational procedures are available for start-up and shutdown operations.
- c. the new item of plant is added to the Plant and Equipment Register and a comprehensive risk assessment is completed with agreed controls in place.
- d. all relevant employees receive appropriate training and instruction on any residual risks, operational, maintenance, and emergency procedures relating to first use and aspects directly affecting the relevant tasks; and an appropriate hazard assessment is conducted prior to and following the commissioning stage.

## **Modification and alterations to plant and equipment**

(26) Where the responsible person initiates modification or alteration to an item of plant or equipment, they must ensure:

- a. a qualified or competent person conducts the modification or alteration,
- b. certification certificates, engineering reports etc. Are obtained,
- c. a documented risk assessment is completed following consultation with the person completing the modifications or alterations.

## **Existing plant and equipment**

(27) A risk management process is undertaken on existing items of plant to achieve safety, compliance and best use of SCU resources. All existing plant must be included in the Plant and Equipment Register.

## **Operating procedures**

(28) Operating procedures are required for each hazardous duty/task involving the use of plant. Safe work procedures are documented by the responsible person of a Work Unit in conjunction with the manufacture's instruction manual(s).

(29) Each responsible person of a Work Unit with plant and equipment will ensure that:

- a. the risks, which may arise from the use of plant, and associated systems of work, are minimised to an

acceptable level.

- b. each item of plant has a pre-work risk assessment or checklist associated with it.
- c. methods to prevent the unauthorised use of plant are implemented to minimise the risk to health and safety.
- d. employees are prevented from coming into contact with plant with moving parts through appropriate risk control (e.g. Fixed plant and equipment – machine guarding procedure).
- e. where students will use the plant and equipment as part of learning practices a competency assessment process and supervision are provided.
- f. any personal protective equipment required shall be incorporated within the standard operational procedures for that plant; and
- g. maintenance, isolation and cleaning procedures of plant are carried out in compliance with the procedure.

### **High risk work licences**

(30) The person who operates an item of plant or equipment must have the necessary competencies and/or licences prior to operating an item of plant or equipment. Plant or equipment such as forklifts, scaffolding, pressure equipment and some particular types of cranes are identified in the WHS Regulations as plant or equipment requiring a High-Risk Work Licence.

### **Inspection of Plant**

(31) Any person in control of plant must ensure that inspection, maintenance, and if necessary, 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.

### **Maintenance, repair and cleaning of plant and equipment**

(32) Plant and equipment must be maintained and repaired according to the manufacturer's manual specifications. If you identify deficiencies in the manual specifications, you should contact the manufacturer. In the absence of a manufacturer's specifications, plant energy sources should be maintained in accordance with a competent person's recommendations.

(33) A process should be implemented to enable effective communication and consultation with affected employees and others to prevent any risk to health and safety arising from restarting plant/equipment operation when the plant has been shut down due to inspection, maintenance or cleaning. If the plant can't be isolated, methods to prevent accidental operation should be implemented.

(34) All energised plant/equipment is required to be identified in the Plant and Equipment register and refer to HRP07: Electrical Safety Procedure.

(35) Service and maintenance records are to be kept within the Plant and Equipment Register.

(36) Regular visual inspections should be completed prior to each use and cleaning applicable parts of the plant/equipment should be completed at the frequency prescribed in the manufacturer's manual.

(37) Formal Workplace Inspection Checklists are to be undertaken regularly, refer to HRP14: Workplace Environment and Facilities Management Procedure.

### **Isolation/tagout**

(38) Before any plant/equipment is inspected, repaired, maintained or cleaned it must, where practicable, be shut down and its energy sources locked out and tagged as part of an isolation procedure. Damaged or unsafe plant or equipment must be taken out of service and be brought to a state that does not create a risk to health and safety of

any person. The following types of tags should be used:

(39) Refer to the HRP 22 Lock out, Tag Out Procedure.

### **Storing Plant**

(40) Plant and equipment not in use must be left in a state that is not a risk to health and safety of any person. Information supplied by the manufacturer should be provided to the person storing the plant. Before plant is used after an extended period of storage, the plant should be recommissioned by carrying out the same level of testing and inspection as when it was first commissioned.

### **Powered Mobile Plant**

(41) The person responsible for management and control of powered mobile plant at SCU workplaces must manage the risks to health and safety associated with:

- a. The plant overturning.
- b. Things falling on the operator of the plant.
- c. The operator being ejected for the plant.
- d. The plant colliding with any person or thing.
- e. Mechanical failure of pressurised elements of plant that may release fluids that pose a risk to health and safety.

(42) All employees and contractors operating mobile plant must follow safe work procedures for mobile plant including:

- a. Operating Elevated Work Platform.
- b. Operating Forklift.
- c. Operating Front End Loader.
- d. Operating Kanga Loader.
- e. Operating Quad Bike.
- f. Operating Ride on Mower.
- g. Operating Tractor with Slasher.

### **Decommissioning, dismantling and disposal**

(43) When plant is to be decommissioned or demolished it must be carried out by a competent person. Some plant may contain hazardous materials. The person responsible is to undertake an inspection of the plant, or a review of any necessary documentation, which may include hazard assessments and manufacturers guidelines. The inspection will take place in the planning stage prior to decommissioning, dismantling and disposal to identify any hazardous materials. If the presence of hazardous materials is suspected contact the WHS team, and your local regulator for further guidance.

### **Specific control measures**

#### **Guarding plant**

(44) Where guarding is used as a control measure to plant and access to the plant is not necessary during operation, maintenance or cleaning of plant, the guarding must be a permanently fixed barrier.

(45) If access is necessary during operation, maintenance or cleaning, the guarding must be an interlocked physical barrier. If it is not reasonably practicable to apply the above provisions, then guarding must only be able to be

removed by the use of a tool. If it is not reasonably practicable to apply a permanent fixed barrier, an interlocked physical barrier or a physical barrier in a fixed position then guarding must include a presence-sensing safeguarding system.

(46) The makeup of guarding must comprise of the following:

- a. a solid construction that is securely mounted and can resist impact or shock.
- b. an ability to prevent by-passing or disabling of the guard.
- c. not introduce an additional risk to the plant, for example obstruct vision.
- d. be properly maintained.
- e. be able to control risks associated with a potential breakdown or ejected parts and work pieces.
- f. allow for servicing, maintenance and repair to be undertaken with relative ease.
- g. if removed, enable the plant to be in-operable until the guarding is refitted or replaced.

### **Operational controls**

(47) Operator controls must be:

- a. identified on the plant to indicate their nature and function and direction of operation.
- b. located so they can be readily and conveniently operated by each person using the plant.
- c. located or guarded to prevent unintentional activation.
- d. able to be locked into the 'off' position to enable disconnection from energy sources.

### **Spotter Safety**

(48) Spotters must adhere to mandatory rules when working around plant and machinery, and maintain a safe visible location to prevent contact with plant at all times.

(49) High-Visibility Clothing: Spotters must wear high-visibility clothing to enhance visibility and ensure they are easily identifiable to operators and other employees.

(50) Exclusion Zone Entry: When a spotter needs to enter an exclusion zone for a credible reason, it must be authorised, and a continuous line of sight between the operator and the spotter must be maintained. If the line of sight is lost, the operator must immediately stop the equipment until visual contact is restored.

(51) Positioning and Line of Fire: Spotters must never position themselves within the line of fire (forward or reverse) while mobile plant is in operation. They should select safe locations that provide clear visibility without exposing themselves to hazards. Avoid standing in blind spots or areas with compromised visibility.

(52) Communication: Spotters and operators must use clear and consistent communication methods, such as approved hand signals or radio communication. In noisy environments, radios with noise-cancelling features should be used to avoid misunderstandings.

(53) Stopping Operations: Spotters have the authority to stop operations if any unsafe conditions are identified, and operators must follow the spotter's instructions until the issue is resolved.

### **Emergency Stops**

(54) SCU must ensure that emergency stop controls of SCU controlled plant are:

- a. prominently, clearly and durably marked, coloured red and immediately accessible to each operator of the plant.



- b. the stop control cannot be adversely affected by electrical or electronic circuit malfunction.
- c. Where the plant is designed to be operated or attended by more than one person and more than one emergency stop control is fitted, multiple controls must be of the 'stop and lock-off' type so that the plant cannot be restarted after an emergency stop control has been used unless each activated stop control is reset.

### **Warning Devices**

(55) Warning devices need to be positioned on plant when there is a likelihood of moving plant colliding with other plant, or workers located in the near vicinity of the plant. The following is an example of warning devices:

- a. automatic audible alarms.
- b. motion sensors.
- c. Lights.
- d. flashing lights.
- e. percussion alarms.
- f. radio sensing devices.
- g. air horns.

### **Isolating energy sources**

(56) When taking plant out of service for maintenance, repair, installation and cleaning it must be appropriately isolated to manage risk associated with unexpected release of energy.

(57) Isolation procedures involve isolating potentially hazardous energy so the plant does not move or start up accidentally. Isolating plant also ensures entry to a restricted area is controlled while the specific task is being carried out. The lock-out process is the most effective isolation procedure. The process is as follows:

- a. shut down the machinery and equipment.
- b. identify all energy sources and other hazards.
- c. identify all isolation points.
- d. isolate all energy sources.
- e. control or de-energise all stored energy.
- f. lock out all isolation points.
- g. tag machinery controls, energy sources and other hazards.
- h. test by 'trying' to reactivate the plant without exposing the tester or others to risk.

(58) Refer to HRP07: Electrical Safety Procedure for further information

## **Section 4 - Roles and Responsibilities**

(59) Refer to WHS Responsibility and Accountability Statement.

## **Section 5 - Records of Documentation**

(60) All relevant documentation will be recorded and kept in accordance with WHS Legislation and other legislative obligations including:

- a. Pre-purchase hazard assessments
- b. In-situ risk assessments

- c. Service/Maintenance records plant/equipment
- d. SWMS/SWI/SOP
- e. Workplace Inspections Checklists
- f. Training evidence/licences
- g. Competency assessments

## Section 6 - Revision and approval history

(61) This procedure will be reviewed as per nominated review dates or because of other events, such as:

- a. Internal and external audit outcomes.
- b. Legislative changes.
- c. Outcomes from management reviews.
- d. Incidents.

## Section 7 - References

<a href="#">Work Health and Safety Act 2011</a>
Work Health and Safety Regulation 2011 (QLD) 2017 (NSW)
Managing Risks of Plant in the Workplace Code of Practice. 2011 (QLD) 2022 (NSW)

## Section 8 - Related Documents

<a href="#">WHSMP09: Permit to Work</a>
<a href="#">HRP07: Electrical Safety Procedure</a>
<a href="#">HRP14: Workplace Environment and Facilities Management Procedure</a>
<a href="#">HRP22: Lock out, Tag Out Procedure</a>
Property Services Tools Asset Register Master
Property Services Vehicle Register
WHS Responsibility and Accountability Statement

## Status and Details

<b>Status</b>	Current
<b>Effective Date</b>	16th December 2024
<b>Review Date</b>	16th December 2027
<b>Approval Authority</b>	Vice President (People and Culture)
<b>Approval Date</b>	12th December 2024
<b>Expiry Date</b>	Not Applicable
<b>Responsible Executive</b>	Kim Franks Vice President (People and Culture)
<b>Head of Work Unit</b>	Brendan Pearce Director, Workplace Relations
<b>Enquiries Contact</b>	Shaun Brown Manager, Workplace Health and Safety <hr/> Vice President (People and Culture) portfolio