

HRP04: Plant and Equipment

Section 1 - Purpose and Scope

(1) This Procedure aims to ensure Southern Cross University (SCU) management, employees, students, and others know the risks associated with plant and equipment in the workplace and relevant management strategies for the risk mitigation process.

(2) All employees, students, and others must follow this Procedure.

(3) This Procedure applies to all SCU Work Units and sites.

Section 2 - Definitions

Competent Person	A person who has acquired through training, qualification or experience the knowledge and skills to carry out the task. A competent person has a more specific meaning in the following circumstances: For design verification, the person must have the skills, qualifications, competence, and experience to design the plant or verify the design. For inspecting plant for registration purposes, the person must have: 1. Educational or vocational qualifications in an engineering discipline relevant to the plant being inspected. 2. Knowledge of the technical standards relevant to the plant being inspected. For inspecting mobile cranes, tower cranes, amusement devices and passenger ropeways, the person must: 1. 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.	
Hazard	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.	
Health and safety representative	An employee elected by their work group under the WHS Act to represent them on health and safety matters.	
Plant	The plant includes machinery, equipment, appliances, containers, implements, tool components, and anything fitted or connected to them. It also 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 genera duty of care under the WHS Act applies to this type of plant. Certain kinds of plant, such as 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.	

Reasonably Practical	 Reasonably practicable means that which is, or was at a particular time, reasonably able to be done to ensure health and safety, considering and weighing up all relevant matters, including: The likelihood of the hazard or the risk concerned occurring. The likelihood of the hazard or the risk concerned occurring. The degree of harm that might result from the hazard or the risk. What the person concerned knows, or ought reasonably to know, about the hazard or risk and ways of eliminating or minimising the risk. The availability and suitability of ways to eliminate or minimise the risk. 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. 	
Risk	The possibility of harm (death, injury or illness) might occur when exposed to a hazard.	
RiskWare	RiskWare is an electronic database for reporting all incidents and near misses. It includes investigating incidents against systemic causes, assigning corrective actions, and reporting regulatory and performance issues.	
Work group	A work group is a group of employees that facilitates 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 the night shift.	

Section 3 - General Principles

(4) 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. Ensure that plant and equipment within each faculty and work unit are assessed for risks with controls in place before commencing use.
- d. Ensuring Permits for high-risk activities such as work at heights, excavation, lifting, confined spaces, and hot works are completed as per WHSMP09: Permit to Work.
- e. Ensuring all plant and equipment are 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.

(5) 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.
- f. Burns or scalds due to contact with hot surfaces or exposure to flames or fluids.

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

Limitations

(7) This procedure does not cover plant that rely exclusively on manual power for their operation and are designed to be primarily supported by hand, such as a screwdriver.

(8) This Procedure does not cover the selection and guidance for using personal protective equipment (PPE).

Consultation

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

(10) 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 information deviates from the Original Equipment Manufacturer manual, a risk assessment must be completed, and the SWI must be updated.

Information, Instruction and Training

(11) 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.

(12) 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.

(13) SCU supervisors and operators are responsible for familiarising themselves with all associated documentation (e.g., operator manuals) to ensure the safe operation of plant and equipment.

(14) 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, an SWI will accompany all motorised equipment, and an SOP will be provided for other tasks, such as using a portable ladder.

Acquisition, purchase or hire of plant

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

- a. Ensure an HRP04 FOR 01 Plant pre-purchase assessment checklist is completed.
- b. Ensure that a risk assessment is conducted in consultation with the supplier and affected employees in situ.
- c. Review the assessment for identified hazards and ensure that existing or new controls effectively control them.
- d. Ensure any statutory requirements for design and/or registration with regulatory authorities are met.
- 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 SWIs and SOPs align if applicable.

(16) 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 specifications, e.g., by checking logbooks and maintenance manuals.
- c. Ensure that the supplier provides the manufacturer's information.

Plant registration

(17) Certain plant items and types of plant design must be registered. Where SCU has management and control of a registrable plant, a copy of the design registration should be obtained from the supplier to ensure all registrable plant items are registered. The 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, is 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

(18) 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 the 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.

(19) The installer, erector and other people engaged in the installation process will follow designer/manufacturer 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.

(20) The installer should ensure:

- a. Entry to and exit from plant comply 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, such as wet conditions, are considered.
- e. Electrical installations associated with plant comply with Australian Standards.

Positioning plant in the workplace

(21) Plant shall be positioned so:

- a. Risks from hot plant, such as friction, molten material, and 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 negatively affect the operation of the plant or work processes.
- d. Where required, the plant rests on a suitable foundation, such as a floor or other support, that ensures its stability and security.
- e. Ventilation can deal with the nature and volume of emissions from the plant.
- f. Workers and others are not exposed to noise levels higher than those stated in the noise exposure standard under the WHS Regulation. Consideration could also be given to placing plant in areas with sound insulation or

mounting to decrease reverberations and noise levels.

(22) Plant purchased directly from overseas is assessed for suitability for use in Australia before 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 the plant may overheat, lose time, or otherwise fail).

Commissioning

(23) Before commissioning, the 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 works according to design and manufacturers' specifications.

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

- a. A consultation process involving employees, health and safety representatives and managers affected has been completed.
- b. Written operational procedures are available for start-up and shutdown operations.
- c. The new plant item is added to the Plant and Equipment Register, and a comprehensive risk assessment is completed, with agreed-upon 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. An appropriate hazard assessment is conducted before and following the commissioning stage.

Modification and alterations to plant and equipment

(25) 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

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

Operating procedures

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

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

This document may be varied, withdrawn or replaced at any time. Printed copies, or part thereof, are regarded as uncontrolled and should not be relied upon as the current version. It is the responsibility of the individual reading this document to always refer to the Southern Cross University Policy Library for the latest version.

- a. The risks that may arise from using plant and associated work systems 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 contacting moving parts in the plant 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

(29) The person who operates an item of plant or equipment must have the necessary competencies and/or licences before operating an item of plant or equipment. Plant or equipment such as forklifts, scaffolding, pressure equipment, and some types of cranes are identified in the WHS Regulations as plants or equipment that require a high-risk work licence.

Inspection of Plant

(30) Any person in control of the plant must ensure inspection, maintenance, and, if necessary, testing by a competent person. Maintenance, inspection, and testing must be done according to the manufacturer's recommendations or, if those are not available, according to recommendations made by a competent person.

Maintenance, repair and cleaning of plant and equipment

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

(32) 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.

(33) All energised plant and equipment must be identified in the Plant and Equipment register and referred to HRP07: Electrical Safety Procedure.

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

(35) Before each use, Regular visual inspections should be completed, and applicable parts of the plant/equipment should be cleaned at the frequency prescribed in the manufacturer's manual.

(36) Formal Workplace Inspection Checklists are to be undertaken regularly, as referred to in HRP14: Workplace Environment and Facilities Management Procedure.

Isolation/Tagout

(37) 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 brought to a state that does not risk any person's health and safety. The following types of tags should be used:

(38) Refer to the <u>HRP22: Lock Out, Tag Out</u>.

Storing Plant

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

Powered Mobile Plant

(40) The person responsible for management and control of the 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 the plant that may release fluids that pose a risk to health and safety.

(41) 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

(42) When the 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 inspect the plant or review any necessary documentation, including hazard assessments and manufacturer guidelines. The inspection will occur in the planning stage before decommissioning, dismantling and disposal to identify hazardous materials. Contact the WHS team and your local regulator for further guidance if hazardous materials are suspected.

Specific control measures

Guarding plant

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

(44) 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 permanently fixed barrier, an interlocked

physical barrier or a physical barrier in a fixed position, guarding must include a presence-sensing safeguarding system.

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

- a. A solid, securely mounted construction that 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, such as obstructing vision.
- d. Be adequately maintained.
- e. Control risks associated with a potential breakdown or ejected parts and workpieces.
- f. Allow for servicing, maintenance, and repair to be undertaken.
- g. If removed, enable the plant to be in-operable until the guarding is refitted or replaced.

Operational controls

(46) Operator controls must be:

- a. Identify the plant's natural function and operating direction.
- 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. Can be locked into the 'off' position to enable disconnection from energy sources.

Spotter Safety

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

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

(49) 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.

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

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

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

Emergency Stops

(53) 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 plant operator.
- 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

(54) Warning devices need to be positioned on the plant when the moving plant is likely to collide with another plant or workers nearby. 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

(55) When a plant is taken out of service for maintenance, repair, installation, or cleaning, it must be appropriately isolated to manage the risk of an unexpected energy release.

(56) Isolation procedures involve isolating potentially hazardous energy so the plant does not move or start up accidentally. Isolating plant ensures entry to a restricted area is controlled while the specific task is 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.

(57) Refer to <u>HRP07: Electrical Safety</u> for further information.

Section 4 - Roles and Responsibilities

(58) Refer to WHSMP13: Responsibility and Accountability Statement.

Section 5 - Records of Documentation

(59) 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

(60) 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

Work Health and Safety Act (in the applicable jurisdiction that SCU operates)

Work Health and Safety Regulation (in the applicable jurisdiction that SCU operates)

Managing Risks of Plant in the Workplace Code of Practice. 2011 (QLD) 2022 (NSW)

Section 8 - Section 8 - Related Documents

WHSMP09: Permit to Work - Hazardous Work

HRP07: Electrical Safety

HRP14: Workplace Environment and Facilities Management

HRP22: Lock Out, Tag Out

Property Services Tools Asset Register Master

Property Services Vehicle Register

WHSMP13: Responsibility and Accountability Statement

Status and Details

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