Working at Heights Procedure

Section 1 - Introduction

(1) This procedure details the necessary measures that should be taken to ensure the safety of any person who works with a risk of falling at any University work location or while engaged in any University activity. Fall hazards can be found anywhere work is carried out at height or where there is a below ground drop.

Section 2 - Compliance

(2) This is a compliance requirement under the:

a. NT Work Health and Safety Act (NUL) 2011
b. NT Work Health and Safety Regulation (NUL) 2011
c. Occupational Health and Safety Act 2004 (Vic)
d. Occupational Safety and Health Act 1984 (WA)
e. Work Health and Safety Act 2011 (NSW)
f. Work Health and Safety Act 2011 (Qld)
g. Work Health and Safety Act 2012 (SA)
h. Managing the Risk of Falls at Workplaces Code of Practice
i. AS/NZS 1576 Scaffolding series
j. AS/NZS 1891 Industrial fall-arrest systems and devices
k. AS/NZS 1892 Portable ladders series AS/NZS 4576
l. Guidelines for scaffolding
m. CDU Hazard and Risk Management Procedure
n. CDU Records Management Guidelines
o. CDU Training and Induction Procedure
p. CDU Working at Heights Rescue Plan

Section 3 - Intent

(3) This document outlines the University's process for managing potential exposure to a risk of falling because of the hazards associated with the work being undertaken. It applies to any person who is exposed to a risk of falling from a height, their supervisors and/or contractors.

Section 4 - Relevant Definitions

(4) In the context of this document:

a. Anchorage means a secure attachment on a structure or plant to which a fall arrest device, lanyard assembly or restraint line or lifeline can be attached.

b. Competent person means a person who has acquired through training, qualification or experience, or a combination of them, the training and knowledge and skills to carry out that task.
c. Edge protection means a structural system, which may comprise of posts, rails infill panels, mesh, toe boards and/or a combination thereof that is designed to prevent people and/or objects from falling over an exposed edge.
d. Elevated Work Platform (EWP) means a telescoping device, hinged device or articulated device, or any combination of these devices which is used to support a platform on which personnel, equipment and materials can be elevated to perform work.
e. Fall means a fall by a person from one level to another
f. Passive fall prevention device means a passive fall prevention device is materials or equipment or a combination thereof that is designed for preventing falls and, after initial installation, does not require any ongoing adjustment, alteration or operation by any person to ensure the device's integrity. Examples include:
    i. Elevated work platforms: fixed work platforms, cherry pickers, step platforms, building maintenance units;
    ii. Scaffolding;
    iii. Guard railing;
    iv. Safety mesh; or
    v. Special forklifts such as order picking forklifts, purlin trolleys.
g. Fall arrest means the supporting of a person after a fall from heights has occurred, to prevent the person striking the ground. Examples of fall arrest systems include;
    i. Catch platforms; In
    ii. Industrial safety nets;
    iii. Individual fall-arrest systems; or
    iv. Anchorage lines or rails.
h. Fall restraint means a type of fall protection with a fixed length lanyard that keeps a worker's centre of gravity from reaching a fall hazard.
i. Fall arrest harness means an assembly of interconnected shoulder and leg straps, with or without a body belt, that complies with AS/NZS 1891 which is designed to distribute forces to minimise the likelihood of injury resulting from an arrested fall, and to prevent the wearer from falling out of the assembly of straps. It consists of a full body harness (parachute type).
j. Guard railing means a protective barrier attached directly to a building, scaffold or other structure by posts.
k. Restraint systems means a system to prevent falling from height. This can include approved rails, guarding, static lines, anchor points, fixed length lines and harnesses. All systems should meet the requirements of relevant Australian Standards.
l. Working at heights means working in a place or undertaking an activity where a person could fall from a height of two metres or more. Some examples include:
    i. Any plant or structure being constructed, demolished, inspected, repaired;
    ii. Off the ground (e.g. up ladders, on work platforms, in trees, up masts or towers);
    iii. Near an unprotected open edge or near a hole, shaft or pit into which a person could fall;
    iv. Fragile or potentially unstable surface;
    v. Using equipment to gain access to an elevated level;
    vi. A sloping or slippery surface.

Section 5 - Procedure

Responsibilities

(5) Pro Vice-Chancellors, Heads of School, Directors of Operational Departments, Managers and Supervisors are responsible for ensuring:

a. Resources are available within their area to assist with the implementation of this procedure;
b. Procedure is implemented in their area;
c. All ladders in their area are inspected a minimum of once every 12 months;
d. Records of inspections and a register of ladder maintenance is maintained in the same location that the ladder is stored;
e. All equipment, such as harnesses, lanyards, ropes and fall restraint devices are inspected and maintained in accordance with AS/NZS1891; and
f. Records of inspections and maintenance of all equipment is maintained and kept with the equipment

(6) Facilities Management (FM) is responsible for ensuring:

a. A roof risk assessment has been completed for all University buildings in conjunction with the Safety, Emergency and Wellbeing team;
b. Anchorages are inspected and maintained in accordance with AS/NZS1891;
c. Roof risk assessments are reviewed on an annual basis; and
d. Authorising access to roofs by approving Roof Access Permits.

(7) All persons working at heights on University campuses and field locations are responsible for:

a. Cooperating with WHS procedures in relation to the work they undertake;
b. Performing work at heights in accordance with this procedure and any information, training or instruction they have received;
c. Inspecting all equipment before and after each use;
d. Using equipment which is suitable for the job; and
e. Identifying and mitigating any hazards, assessment and control of the risk involved.

Training and Competency

(8) All persons who are required to work at height using passive fall prevention devices shall hold a certificate of competency from a nationally accredited Registered Training Organisation (RTO).

(9) The training given must cover, at least:

a. The method to be used in carrying out the specified work task. This should include access and the attachment method.
b. The correct use, care and storage of individual fall protection equipment.
c. Inspection and maintenance of fall protection equipment and recording information.
d. The procedure to be adopted in the event of an accident or injury (e.g. rescue and recovery).

(10) It is highly recommended that supervisors of persons who work at heights also complete relevant training. Other training requirements may be identified via risk assessment, safe work procedure, roof access permit, etc.

Planning

(11) The risk assessment process outlined in the University's Risk and Hazard Management procedure must be followed before any activity or task commences where the risk of falling is present, and consideration given to controls such as work platform, barriers, fall restraint or fall arrest harnesses.

(12) During the planning process for any activity working at heights, consideration must be given to the following legislative requirements:

a. Where possible, the work is carried out on the ground or on a solid construction.
b. A safe means of access to and exit from the workplace must be provided.
c. The risk of falls has been minimised so far as is reasonably practicable by providing a fall prevention device, work positioning system or a fall arrest harness.

Risk Management

(13) Individual job factors determine the level of risk associated with falls and are to be managed accordingly to prevent an injury. A risk management approach incorporating the process of identification, risk assessment and controls is required to be undertaken to ensure that hazards do not adversely affect the health and safety of University staff, students, contractors and third parties.

(14) It is expected that when working at heights all reasonably foreseeable hazards that could give rise to the risk off falls will be identified.

Assessment of Risk

(15) When assessing the risks arising from each fall hazard, the following matters should be considered:

a. Design and layout of elevated work areas, including the distance of a potential fall.
b. Number and movement of all people at the workplace.
c. Proximity of people to unsafe areas where loads are placed on elevated working areas (for example, loading docks); and where work is to be carried out above people and there is a risk of falling objects.
d. Adequacy of inspection and maintenance of plant and equipment (for example, scaffolding).
e. Adequacy of lighting for clear vision.
f. Weather condition, the presence of rain, wind, extreme heat or cold can cause slippery or unstable conditions.
g. Suitability of footwear and clothing for the conditions.
h. Suitability and condition of ladders, including where and how they are being used. Adequacy of current knowledge and training to perform the task safely (for example, young, new or inexperienced persons may be unfamiliar with a task).
i. Adequacy of procedures for all potential emergency situations.

Applying Controls

(16) The hierarchy of controls need to be applied when managing risks associated with falls. The following should be considered when developing control options:

a. Can the need to work at height be avoided to eliminate the risk of a fall?
b. Can the fall be prevented by working on solid constructions?
c. Can the risk of a fall be minimised by providing and maintaining a safe system of work?

(17) It is important to consider if the following will help to implement and maintain control measures:

a. Developing procedures on how to correctly install, use and maintain the control measure.
b. Consulting with the manufacturer and/or supplier of equipment for any product specific requirements.
c. Provision of information, training and instruction to workers, including procedures for emergency and rescue.
d. Provision of supervision.

Monitoring and Review

(18) Risk assessments and controls that have been implemented should be regularly reviewed to ensure:

a. They remain appropriate for the type of risk.
b. That they remain effective in minimising the risk.

Working at Height Rescue Plan

(19) Before the commencement of any work at heights a working at height rescue plan (rescue plan) shall be prepared. Persons conducting the work shall be involved in the development of the rescue plan ensuring they are aware of areas of potential concern. This shall be referred to in the Safe Work Procedure or Job Safety Analysis and included in the Work Pack. A generic rescue plan can be used provided there are no unique circumstances with the task requiring the plan to be modified.

(20) As a minimum, the rescue plan shall include:

a. Method to be employed for rescue from heights.
b. Identification of emergency response resources, competent persons and equipment (which must be readily available). In situations where complex rescue processes may be required it may be necessary to advise rescue services prior to and at the completion of the work.
c. The identification of Access/Egress points to be used in the event of an emergency evacuation.
d. Communications (tested and proven prior to work commencing).
e. Information for reducing the potential for suspension trauma of a person.

(21) Recovery of persons from heights shall only be undertaken by competent persons. Rescue can only be carried out if it is safe to do so and where the rescue will not place the rescuer and other persons at risk of injury.

Working on Roofs

(22) All University roofs as a minimum requires a documented Roof Safety Survey and associated roof risk assessment. Any person who is required to access a University roof is to follow the process outlined in the risk assessment.

University Off-Campus Activities

(23) University fieldwork, events and activities that require working at heights require planning and a risk assessment of the environment for hazards, and appropriate action to be taken to mitigate risk of falling as per this procedure.

Fall Prevention

(24) Consider the viability of performing the work from the ground. Working on the ground or on a solid construction effectively eliminates the risk of falls. For example, can a roof be prefabricated at ground level, can a spreader be used to cover loads on trucks from the ground and can shelving height be reduced so they may be accessed from ground level.

(25) Working on a solid construction can work to provide an environment where the likelihood of a fall can be

eliminated. Examples include structural strength, barriers, protection of openings and holes, surface and gradient, and entry and exit.

Elevated Work Platforms (EWPs)

(26) Every person in the 'basket' must be secured with suitable fall restraint equipment and there must be systems in place to prevent tools and equipment from falling from the basket. This shall also apply when moving any EWP (inclusive of loading and unloading of a EWP from a transport vehicle) whether elevated or not.

(27) An observer / spotter shall be available for personnel working on EWPs to provide additional guidance during moving operations and ensure that persons can readily respond in an emergency.

(28) Fall protection using a harness and lanyard shall be deemed as mandatory when working in an EWP including booms and scissor lifts.

(29) There is to be NO SMOKING when in the basket of any type of EWP.

Passive Fall Prevention Devices

(30) Use passive fall prevention devices to help prevent a fall for temporary work at heights.

Anchor Points

(31) All fixed or permanent structural anchorage points shall be certified by a competent person and shall be non-destructive proof tested after installation. Installation and NDT testing documentation including the Engineer's certificate shall be maintained by FM.

(32) Friction and grouted anchorages shall be certified by a competent person and proof loaded to 50% of the design ultimate strength in accordance with manufacturer's instructions after installation and prior to its initial use. Temporary anchorages shall be installed in accordance with the manufacturers or designer's instructions and shall be inspected by an approved competent person prior to use.

Edge Protection

(33) Where a person is at risk of falling, edge protection shall be provided by means of guardrails complying with AS 1657 or AS/NZS 1576.1 and:

a. Every open edge of a stair, landing, platform or shaft opening must be protected to prevent people falling.
b. Guard railing shall be constructed to withstand a force of 0.55 kN (approximately equivalent to 55kg) applied at any point of it. If edge protection is to be used on roofs with pitches exceeding 15º from the horizontal, the edge protection shall be able to withstand the added impact forces.
c. Top rails shall be between 900mm and 1100mm above the working surface.
d. Mid rails and toe boards shall be provided, unless wire mesh infill panels incorporating a toe board are used instead of the mid rail.
e. Bottom rail may be provided above the toe board for more severe roof slopes. Both a mid-rail and infill mesh panel will assist in preventing persons and objects from sliding off the roof.
f. Guard railing shall comply with AS 1657 Fixed Platforms, Walkways, Stairways and Ladders – Design, Construction and Installation and/or AS/NZS 4576 Guidelines for Scaffolding.
g. Equipment access points shall be protected adequately with self-closing gates.

Industrial Rope Access Systems

(34) In the case of utilisation of industrial rope access systems both the user and the supervisor shall be a competent

person. Examples of work positioning systems include industrial rope access systems and restraint systems.

(35) Although fall arrest components are used in the industrial rope access system, the main purpose of the system is to gain access to a work area rather than to provide backup fall protection.

(36) Other methods of accessing a workface should be considered (for example, EWPs or building maintenance units) before rope access systems, as a high level of skill is needed for their safe use.

Restraint Technique

(37) The use of a restraint technique is the University's preferred method to keep workers safe at heights. A restraint technique controls a person's movement by physically preventing the person reaching a position at which there is a risk of a fall. It consists of a harness that is connected by a lanyard to an anchorage or horizontal life line. It must be set up to prevent the wearer from reaching an unprotected edge.

Fall Arrest Systems

(38) A fall arrest system should only be used if it is not reasonably practicable to use higher level controls, or in conjunction with higher level controls. Where a fall arrest device is being used this equipment is required to have all anchorage points for the device to be inspected before first use and on a regular basis, so they can support the loads. This inspection must be conducted by a competent person.

(39) Where the load-bearing capacity of anchor points is impaired, the anchor point is required to be taken out of service to prevent its use. Only suitable equipment such as harness, safety line and other components shall be used in fall arrest systems.

(40) Only a competent person shall use fall arrest equipment. Where a fall arrest system is in use, an appropriate Working at Heights Rescue Plan is required in the event of a person falling. All equipment used for fall arrest should be selected, used and maintained in compliance with the AS1891 series of standards.

Ladders

(41) Working from ladders greatly increases the chances of falling compared to other methods of working at heights. Alternate passive fall prevention devices are to be considered. Ladders are only to be used for:

a. minor tasks;
b. short periods of time; and
c. as a means of access and egress

(42) Ladders are not to be used for:

a. any work that places the user at risk;
b. any work where the user is higher than 3 meters from the ground. For heights above 3 metres, ladders are only to be used for access and egress purposes.

(43) Always use regularly inspected and maintained industrial ladders that comply with Australian Standards, that have a clearly displayed load rating of at least 120kg. Do not use domestic ladders.

(44) Ladders are available in a variety of types and materials including portable or fixed. To ensure risks associated with performing the intended task are minimised, it is important that the appropriate ladder is used for each job.

Step Ladders

(45) Step ladders of a maximum height of 1.8 metres and of industrial quality that complies with the applicable Australian Standards shall only be permitted on site where:

a. Use of “step-up” safety steps are not suitable.
b. Use of specialised stepladders that have a working platform surrounded by a handrail is not possible.
c. They are used on level “non-slip” surfaces with no tendency to wobble and where a fall to a lower level is not possible i.e. they cannot be used on a non-enclosed walkway or within two meters in any direction of an edge where a fall to a lower level is possible.
d. They are used in the fully opened position with side and cross braces in good condition, locking devices secure and no flexibility in full extension.

Straight and Extension Ladders

(46) The following guidance is to be applied:

a. Ladders must be angled on an approximate 4 to 1 ratio, i.e. the base of the ladder should be one metre out for every four metres in height.
b. Ladders shall be secured at the top when a person is working on the ladder. The ladder shall be stabilised by another person while the ladder is being secured. If the ladder cannot be secured, then a person shall hold the ladder for the entire period that it is in use.
c. Ladders shall have a firm even base to work on and all ladders shall be fitted with slip resistant safety feet.
d. Ladders when used for access purposes shall extend a minimum one metre above the landing.

Prevention of Falls (Ladders)

(47) The following guidance is to be applied:

a. Ladders shall be fitted with slip resistant safety feet and be stood on a firm even base.
b. Where practicable, ladders should be set up at right angles to the working position to minimize the potential to overbalance.
c. Ladders shall not be placed in front of doors opening towards the ladder unless the door is blocked, locked, or guarded.
d. Three-points of contact must be maintained.
e. Tools or materials must not be carried while climbing / descending the ladder. Tools must be carried in a tool belt or side pouch and equipment is to be passed up by an assistant.
f. Ladders must always be faced and the person’s belt buckle must always remain within the ladder styles i.e. no leaning out from the sides.
g. No person is permitted to “rock” or “walk” a ladder to reposition it.
h. No person shall stand on a ladder any higher than the third rung from the top of the ladder. Only one person is allowed on the ladder at the same time.
i. Shoes are to be in good condition with adequate tread on the soles to prevent slipping.
j. Metal or metal bound ladders are never to be used for electrical work or close to energised electrical power lines.
k. Ladders are not to be used on scaffolds, in elevated work platforms or placed on boxes, barrels, or other unstable bases to gain extra height.
l. Signage and barricading must be erected where the is a possibility of tools or equipment falling on persons working or passing underneath.

(48) For extension ladders, such as the rope-and-pulley type, ensure:

a. They are placed into position, unextended. Extend a few rungs at a time using the rope.
b. Latching hooks are engaged after each extension. Good manual handling practices are applied. Two people may be required to raise and lower, depending on the type of ladder, the location and weather conditions.
c. Adequate weight is applied at the base when lowering to prevent it becoming uncontrollable.

Ladder Inspections and Maintenance

(49) Any areas using ladders are to ensure they are regularly inspected and maintained by a competent person. To verify ladders are still maintained within the specifications set out by the manufacturer all ladders should be inspected:

a. When originally purchased, received and put into service;
b. Before each use;
c. After any mishaps, drops and impacts; and
d. Yearly.

(50) All ladders should be stored on racks out of the elements when not in use and should be effectively supported and free of any hanging material.

Defective Ladders

(51) Ladders identified as having a defect must be taken out of service immediately and an "Out of Service" tag affixed. This tag must not be taken off the ladder until the ladder has been repaired or destroyed by cutting the ladder into sections approximately one meter, or no more than two rungs, in length. Any repairs should not reduce the ladder's structural integrity when compared to the original design.

(52) Each area is to maintain a register of ladders that they own and ensure inspection occurs.

(53) All testing, inspection and maintenance exercises undertaken should be outlined in a ladder register. A record for each ladder should include information such as a brief description of the ladder, the date of purchase, the date of introduction to service and general details of service.

Falling or Dropped Objects

(54) Objects falling from heights can place those working near or below at risk. Consideration must be made for plant, equipment or other objects required for use at heights.

(55) Where working at height requires objects such as tools and equipment the following shall be required:

a. Safe means of raising and lowering plant, materials and debris in the place of work.
b. Edge protection to be used.
c. Provision of appropriate personal protective equipment.
d. Barrier to close off the work area underneath or other means to prevent persons working or passing by underneath.
e. Supervision of the area beneath.

Section 6 - Non-Compliance

(56) Non-compliance with Governance Documents is considered a breach of the Code of Conduct – Staff or the Code of Conduct – Students, as applicable, and is treated seriously by the University. Reports of concerns about non-compliance will be managed in accordance with the applicable disciplinary procedures outlined in the Charles Darwin University and Union Enterprise Agreement 2022 and the Code of Conduct – Students.

(57) Complaints may be raised in accordance with the Code of Conduct – Staff and Code of Conduct - Students.

(58) All staff members have an individual responsibility to raise any suspicion, allegation or report of fraud or corruption in accordance with the Fraud and Corruption Control Policy and Whistleblower Reporting (Improper Conduct) Procedure.

Status and Details

Status	Current
Effective Date	15th January 2022
Review Date	15th January 2022
Approval Authority	Vice-Chancellor
Approval Date	12th January 2022
Expiry Date	Not Applicable
Responsible Executive	Scott Bowman Vice-Chancellor
Implementation Officer	Karen Stoddard Deputy Director Organisational Capability and Engagement
Enquiries Contact	Office of the Vice-Chancellor and President