Work at height Procedure
HSE Management System
PTCL Group

Parent Procedure/Document	HSE Policy
Functional Area/Department	Health, Safety, Environment and Sustainability
Document Code	HSE_PR_18v01
Description	Work at height Procedure
Date	04/02/2025
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First Draft	02/04/2025
Document Location	HSE Share Point Folder
Distribution List	PTCL Group

1. **Overview**

This SOP "Working at Heights" is designed to incorporate the Legal, local regulatory authorities and applicable references of e& "Work at height "procedure requirements to protect employees and the interested parties of PTCL Group and service provider from occupational hazards within the workplace.

Working at height is a major source of serious injuries and fatalities, often involving falls from roofs, ladders, pole, and through fragile surfaces. This SOP outlines straightforward, practical steps

that PTCL can implement to minimize the risk of falls and enhance worker safety when operating at elevated levels.

2. **Purpose**

Covers the requirements relevant to the planning, preparation and conduct of health and safety work practices in connection with working at heights.

3. **Scope**

Applies to all undertakings and workplaces of PTCL Group for work at height activities & operations so as to incorporate requirements set by the local regulatory authorities. If requirements of this document conflict with requirements set by another regulatory authority, the more stringent requirement shall be followed.

4. Definitions

Subject	Definition
Working at height	Work in any place where, if there were no precautions in place, a person could fall a distance liable to cause personal injury includes: - Existing places of work and means of access for working at height. - Fall prevention. - Guardrail systems. - Safety nets. - Roof works. - Ladders. - Fall arrest systems; and - Working platforms. - Working at heights is work in which there is a risk of an employee falling from any height from, though, into, or onto a place or structure. - A place is 'at height' if a person could be injured falling from it, even if it is at or below ground level.
Anchorage	A secure point of attachment for lifelines, lanyards, or deceleration devices. "Anchorage" shall be independent of - in that it shall not be part of, or directly connected to, or have any structural integrity with – the means of supporting or suspending the employee or the structure upon which the employee is directly engaged on. "Anchorage" shall be tested and certified by a competent person. The anchorage should be rigid and should not have a deflection greater than .04 inches (1 mm) when a force of 2,250 pounds (10kN) is applied. Anchorages to which personal fall arrest equipment is attached shall be capable of supporting at least a minimum dead weight of 2450 kg per person attached.

5. **Roles, Responsibilities and Authorities**

Top management through The Senior Managers, relevant managers & supervisors shall undertake their specific roles and responsibilities in accordance with the following:

- All work at height is appropriately planned, assessed, organized, and appropriately supervised.

- All work at height takes account of weather conditions that could endanger health and safety.
- Those involved in work at height are trained and competent.
- The place where work at height is done is safe.
- Equipment for work at height is appropriately inspected.
- The risks from fragile surfaces are appropriately controlled; and
- The risks from falling objects are appropriately controlled.
- The risks of electrocution while working at height is controlled.

All Employees shall:

- Shall undertake their roles and responsibilities in accordance with the general requirements.
- Shall report any activity or defect relating to work at height which they believe is reasonably foreseeable to endanger their safety or that of another person's.
- Shall use appropriate equipment or safety devices provided for work at height in accordance with any training or instruction received in the use of the work equipment or device concerned.

6. Training and Competency

The HSE, L&D and other relevant departments in coordination with Line Managements shall:

6.1 Ensure a training program appropriate to ensure that all persons involved in working at heights acquire the understanding, knowledge, and skills necessary for the safe performance of all duties.

6.2 Training shall be provided to exposed employees prior to assignment to jobs where fall hazards exist. Training shall include the following:

- A discussion of the Fall Prevention Plan.
- Types of fall protection equipment to be used at the site.
- Fall hazards associated with the work to be completed.
- Procedures for removal of fall protection devices from service for repair or replacement.
- Fall protection equipment identification methods.
- Equipment maintenance and inspection requirements.
- Emergency rescue procedures.
- Suspension trauma.
- Equipment donning and doffing procedures, and opportunity for each employee to use the equipment in a field exercise.
- Equipment strengths and weight limitations.
- The use and operation of guardrail systems, personal fall arrest systems, safety net systems, warning line systems, safety monitoring systems, controlled access zones, or any other fall protection method to be used at the site.
- Practical and theoretical training on the actions to be taken in an emergency situation.
- This shall include rescue from height, The role of each employee in the safety monitoring system if this system is used, and the role of employees in fall protection plans.

6.3 Prior to using fall arrest equipment each employee shall have their competency to use the equipment assessed by PTCL Representative or appointed competent trainer. (Training Required from L&D about fall arrest equipment to each employee)

6.4 Refresher training shall be conducted when there has reason to believe that any affected employee who has already been trained does not have the understanding and skill required by this SOP. The training content shall be identical to initial training. Circumstances where retraining is required include, but are not limited to, the following conditions:

- Whenever (and prior to) a change in job assignment is made.
- When there is a change in the type of fall protection equipment used; or
- When a known hazard is added to the work environment that affects the Fall Prevention Plan.

6.5 Shall conduct additional retraining whenever a periodic inspection reveals, or there is reason to believe, that there are deviations from or inadequacies in the employee's knowledge or use of fall protection equipment or procedures.

6.6 Shall conduct additional retraining whenever a fall protection procedure fails.

6.7 Shall maintain a record of the required training that contains. (Record should be kept by the L&D or a designated Portal)

7. Procedure/ Instructions

7.1 Planning and Assessment

The Line Managers, HSE Team, relevant Managers & supervisors shall:

- Evaluate each site or operation to determine if fall hazards are present and the workplace shall be assessed using risk management practices as required by the Hazards identification, risk assessment and control (HIRAC) process.
- The risk assessment shall follow the hierarchy of control as described in this SOP
- Where fall hazards are present, procedures shall be developed, documented, and utilized for the control of those fall hazards.
- Ensure assessment of the various risks and establishment of systems of work which are safe to other employees, contractors, and the public.
- Ensure if effective procedures and control measures are in place and are implemented in order to manage working at height activities.

7.2 Hierarchy of Control of fall hazards

Working at height shall be eliminated and where cannot be eliminated, controlled to reduce the risk. For detail hierarchy of control refer to SOP RA & EAIA (HSE-PR-04)

- Examples include equipment, material etc. pre-assembled on ground level whenever possible and reasonably practicable. Preparation work such as sorting, unpacking or necessary preparation performed in areas without the risk of falling from height.
- When undertaking a risk assessment for tasks that are to be completed 'at height,' the following hierarchy of control shall be adopted:

- **Avoid:** ensure that no work is done at height if it is safe and reasonably practicable to do it other than at height.
- **Prevent falls:** where it is not reasonably practicable to avoid working at height, ensure that appropriate equipment or other control measures are in place to prevent persons falling from a place at height; and
- **Minimize the distance and consequences of a fall:** it shall be ensured that where it is not reasonably practicable to prevent falls, work equipment or other means shall be provided that will reduce the distance a person could fall and the consequences of this fall.

7.3 Preventing Injuries from Falling Object

When work is conducted at height, the following controls shall be implemented:

- Establish exclusion zones and enforce them under work at height areas to prevent unauthorized access
- Work is to stop while people traverse the exclusion zone.
- Place warning signs to warn people of hazards, all safety signage shall be in accordance with the industrial safety signs and standards procedure.
- Shall use bolt bags and tool carriers to carry small items and tools - these are not to impede the employee and securing them with lanyards.
- Shall ensure that employees required to be in the exclusion zone including persons holding ladders and banksman, wear hard hats.
- Implement safe working platforms with appropriate toe boards to prevent falling objects; and

7.4 Size of Drop zones

For work on tall masts (40m +) the 'high-risk' drop-zone should be a minimum 20m radius from the center of the structure, with the 'medium risk' drop-zone extending to a minimum 50m radius. For work on tall towers (40m +) the 'high-risk' drop- zone should be the area within the plan of the tower, plus a minimum 10m out from each face, with the 'medium-risk' zone extending to a minimum 20m out from each face. For work on smaller infrastructure (< 40m) such as telecom towers and monopoles, the 'high-risk' drop one should be a minimum 10m radius from the center of the structure, with the 'medium-risk' zone extending to a minimum 20m radius.

High-risk drop-zone controls:

- Minimize work within the zone as much as possible.
- Restrict access to the zone only to personnel directly involved in the height-related activities.
- Ensure only authorized persons by the site supervisor enter the work-at-height zone.
- Locate site offices, welfare cabins, and vehicle areas outside of the zone.
- Require hard hats to be always worn within the zone.
- Block access to building areas within the zone unless the structure is certified to withstand impacts from potential falling objects.

Medium-risk' drop-zone controls:

- Hardhats should be worn at all times.
- Members of the public should not be permitted to enter the zone.

- Where there are roads and footpaths within the zone, the appropriate authority should be contacted to obtain closures or diversions. Where this is not possible, other controls should be implemented e.g.
- Implementing extra control measures to prevent falling objects.
- Placing of ground sentries to warn public of risks and to stop work at height where necessary.
- Carrying out lifting etc. on the opposite side of the structure to the road or footpath
- People who need to move through the drop-zone to enter a separate area of the site should do so safely e.g., whilst wearing a hardhat or whilst protected by a robust roof (including that of a vehicle).

Defining the Drop-Zone

- Both 'high-risk' and 'medium risk' drop-zones should be defined. Signage warning of the overhead danger and designating the drop-zone a hard-hat area should be prominently displayed around the perimeter of both drop-zones and:
- At any gate or entrance that leads into the drop-zone.
- On the inside of all doors that are used to exit buildings that are located within the drop zone.
- Where any public footpath/access track intersects the perimeter of the drop-zone.
- The person in charge of the work at height taking place should ensure that all workers, visitors and third parties who enter site are made aware of the two drop-zones and the control measures associated with each.

7.5 Rescue Equipment

- Employees are using fall arrest systems; rescue equipment shall be available in the area to retrieve employees in the event of an incident.
- Rescuing an injured or unconscious person at height that they act quickly to prevent possible suspension trauma which can cause death very quickly; and (Two riggers are required when working on the tower to ensure safety. In the event one becomes unconscious while working at height, the other can perform a rescue.)
- Employees who are working on or near electrical equipment, safety and rescue equipment approved for electrical work is available.

7.6 **Personal Protective Equipment**

Ensure that in addition to hazard-specific PPE such as high visibility clothing, the following PPE shall be available when required:

- Footwear that is appropriate to prevent slips.
- As a minimum, low impact eye protection such as sunglasses to make sure that an employee at height is not at-risk due to glare or reflection; and
- Safety helmets that will remain in place in the event of a fall.
- All PPE requirements shall be in accordance with the PPE procedure.

7.7 **Selection of Work at Height Personnel**

The following persons may be excluded from being required to work at height:

- Persons who suffer from vertigo or who are afraid of heights.
- Persons who are not physically fit enough to undertake climbing activities.
- Persons who suffer from dizziness; and

- Persons who have a physical shape or weight which may affect the safe operation of working at height equipment. In any case, staff 50 years in age and above are not permitted to climb on pole.

7.8 Public Protection

- Ensure that any work at height considers necessary protection to the public from potential falls of tools or materials or from use of mechanical platforms. Protection measures shall include, but not be limited to:
- Diversion of pedestrian walkways away from any overhead activities.
- Temporary closure of footpaths for specific operations (after authorization has been sought and obtained).
- Provision of a walkway with overhead protection.
- Use of debris netting to prevent material falling outside the perimeter. Debris netting is required & also ensure by vendor/PTCL group staff)
- Tying down or securing of materials to prevent them from being blown off; and
- Avoidance of work at height during busy times of the day when large numbers of members of the public are in the area.

7.9 Danger Areas

Where a workplace contains an area where there is a risk of any person at work falling a distance; or being struck by a falling object, then means of preventing unauthorized persons from entering the area shall be **in place and clearly indicated.**

7.10 Guardrail Systems

Provision of Guardrails

- Provide guardrails to all edges where there is a fall potential of 2 meters or more.
- In the case where a fall potential of less than 2 meters is identified, a risk assessment shall be done and determine the level of protection required. As a minimum requirement for edges where a fall potential of less than 2 meters exists a single guardrail 950mm from the walking/working level shall be provided.

guardrails shall be used on the edge of working platforms, walkways, stairways, ramps, or landings and at:

- The perimeters of buildings or other structures.
- The perimeters of skylights or other fragile roof materials.
- Openings in floor or roof structures; and
- Edges of shafts or excavations.
- Proprietary systems shall be configured, installed, used, and dismantled in accordance with the manufacturer's instructions.

Requirements for Guardrail Systems

- Ensure that guardrails are provided to all edges where there is a risk of falling 2 meters or more.
- Guardrails shall be provided a minimum of 950mm above the walking/working platform level.
- Toe boards shall be provided at least 150mm high and run continuously along the edge where guardrail protection is provided.

- Ensure that a mid-rail is fitted to all edges where there is a risk of falling 2 meters or more. The mid-rail shall be installed so that the gap between any guardrail and mid-rail or toe board and mid-rail does not exceed 470mm.
- Screens and mesh shall extend from the guardrail to the walking/working level and along the entire opening.
- Other structural members such as additional mid-rails and architectural panels shall be installed such that there are no openings in the guardrail system that are more than 470mm wide.
- Guardrail systems shall be capable of withstanding, without failure, a force of at least 1.25 kN point load, in any outward or downward direction, at any point along the top edge.
- When the 1.25 kN point load test specified in this section is applied in a downward direction, the top edge of the guardrail shall not deflect to a height less than 900mm above the walking/working level.
- Guardrail systems shall be surfaced to prevent injury to an employee from punctures or lacerations, and to prevent snagging of clothing.
- Top rails and mid-rails shall be at least 60mm nominal diameter or thickness to prevent cuts and lacerations.
- If wire rope is used for top rails, it shall be flagged at not more than 2-meter intervals with high-visibility material.
- When guardrail systems are used at hoisting areas, a chain, gate, or removable guardrail section shall be placed across the access opening between guardrail sections when hoisting operations are not taking place.
- When guardrail systems are used at holes, they shall be erected on all unprotected sides or edges of the hole.
- When guardrail systems are used around holes used for the passage of materials, the hole shall have not more than two sides provided with removable guardrail sections to allow the passage of materials. When the hole is not in use, it shall be closed over with a cover, or a guardrail system shall be provided along all unprotected sides or edges.
- When guardrail systems are used around holes that are used as points of access (such as ladder ways), they shall be provided with a gate, or be offset so that a person cannot walk directly into the hole.
- Guardrail systems used on ramps and runways shall be erected along each unprotected side or edge.
- Before using a guardrail system, the factors that will influence the load on the guardrail shall be considered. The force applied from the momentum of a falling person, the pitch of the roof and the length of the rafter to which the guardrail is attached will determine whether the guard railing is appropriate.
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7.12 Fall Arrest Systems (FAS)

Selecting FAS and Equipment

- Ensure that when selecting the type of equipment to be used, the following factors shall be considered:
    - The type of work.
    - The potential for a fall, and the fall's potential severity.
    - Task mobility requirements; and
    - Constraints on fall distances and clearances.

Ensure when selecting equipment for any particular task the equipment shall give the wearer:

- The maximum degree of comfort and freedom of movement.
- In the event of a fall, the most reasonably practicable protection against injury from:
- Impact with the ground or other objects below the wearer; or
- Impacting surrounding structures.

Fall Arrest System users:

Ensure that the equipment combination is in accordance with the manufacturer's instructions. Cannot make any alterations that may adversely affect safe operation of any part of a FAS. Training Required from Certified Professionals on FAS

Inspection and Maintenance

- Ensure inspections and maintenance in compliance with:
- Ensure that fall arrest equipment is inspected and maintained and that any defective item found during inspection and maintenance is segregated, tagged with a cautionary "Out of Service Tag," and not used until it has been repaired and tested, or replaced. Repair of defective equipment shall be carried out by a competent person.
- Ensure that in the event of a fall arrest, each item of equipment involved shall be assessed and inspected before re- use. Any items found to have been stretched or damaged shall be replaced before the equipment can be re- used.
- Users shall inspect the following items before and after each use: harnesses, lanyards, connectors, fall arrest devices, ropes, slings, and any other mobile attachment devices, e.g., snap-hooks, karabiners, rope grabs.
- Ensure the inspection shall:
    - Be by touch as well as sight.
    - Include the opening of any equipment where access for daily inspection is provided, to make sure that internal components are in satisfactory condition.

Include the opening or removal of temporary rope or line protectors, to enable rope to be appropriately inspected.

    - Include operation of the locking mechanism on fall arrest devices.
    - for ropes, include running the rope through the hands; and
    - for portable pole platforms, include checks to make sure that:
- surfaces have no cracks.
- there is no deformation, permanent bending, excessive corrosion, modification, and lack of insulation in recessed screw holes.
- non-slip surfaces are functional.
- welds are sound and joints and fastenings are tight; and
- The safe working load markings are clearly legible.
- Ensure that inspections of belts, harnesses and lanyards are to be conducted every 6 months by a person who has been trained and is competent. Also, items are to be checked in accordance with the manufacturer's instructions to determine whether there is excessive wear or any other fault liable to render the item unsafe during a fall arrest.

- Ensure anchorages are inspected and certified before use after initial installation and inspected every 12 months thereafter by a qualified rigger, scaffold, or specialist installer. Anchorages are to be visually inspected for signoff deterioration which might make them unserviceable, together with any other requirements contained in the manufacturer's instructions.
- Ensure the parent structure is visually inspected for modifications or deterioration which might lead to loss of anchorage strength and drilled-in anchorages such as friction or glued-in anchorages shall be proof-tested as part of each inspection.
- Ensure inspections of fall-arrest devices are conducted every 3 months by a person who has been trained and is competent.
- Ensure inspection of horizontal lifelines, vertical lifelines used with fall arrest devices and horizontal or vertical rails is to be undertaken every 12 months.
- Ensure slings are inspected every 3 months by a banksman or equivalent and tested every 12 months by a competent testing organization.
- Ensure ropes used to suspend a person are inspected before and after each use.
- Ensure ropes are inspected every 3 months; and
- Ensure ropes are not pull tested as this can cause damage to the rope.
- Ensure that fall arrest devices are fully serviced if they have been in storage for longer than 12 months.
- Ensure hardware and mechanical devices are maintained in accordance with the manufacturer's instructions.
- Ensure synthetic textile materials are maintained by cleaning with mild soap and water. If more severe cleaning is required reference is to be made to the recommendations of the manufacturer of the item.
- Ensure that fall arrest equipment is stored and transported in conditions which avoid dampness, heat, and stress on components.

8.13 Working Platforms

Protection of Open Sided Floors, Runways and Platforms

- Every open-sided floor or platform 1.2 meters or more above an adjacent floor or ground level shall be guarded by a standard railing on all open sides except where there is entrance to a ramp, stairway, or fixed ladder. The railing shall be provided with a toe board wherever:
  - Employees can pass.
  - There is moving machinery; and
  - There is equipment with which falling materials could create a hazard.
- Every runway shall be guarded by a standard railing on all open sides 1.2 m or more above floor or ground level. Wherever tools, machine parts, or materials are likely to be used on the runway, a toe board shall also be provided on each exposed side.
- Runways (such as oiling, shafting, or filling tank cars) may have the railing on one side omitted where operating conditions require such omission, providing the falling hazard is minimized by using a runway of not less than 45 cm.
- Wide. Employees entering such open runways shall utilize appropriate fall protection meeting the requirements of this SOP.
- Regardless of height, open-sided floors, walkways, platforms, or runways above or adjacent to dangerous equipment, open tanks, and similar hazards shall be guarded with a standard railing and toe board.

- A standard railing shall consist of top rail, mid-rail, and posts, and shall have a vertical height of 950mm nominal from upper surface of top rail to floor, platform, runway, or ramp level. The top rail shall be smooth surfaced throughout the length of the railing. The intermediate rail shall be approximately halfway between the top rail and the floor, platform, runway, or ramp.
- The anchoring of posts and framing of members for railings of all types shall be of such construction that the completed structure shall be capable of withstanding a load of at least 90 kg applied in any direction at any point on the top rail.

Protection of Stairs

- Every flight of stairs having four or more risers shall be equipped with standard stair railings or standard handrails as provided below:
- On stairways, less than 1 meter wide having both sides enclosed, at least one handrail, preferably on the right-side descending.
- On stairways, less than 1 meter wide, having one side open, at least one stair railing on open side; and On stairways, less than 1 meter wide, having both sides open, one stair railing on each side.
- A standard stair railing shall be of construction similar to a standard railing, but the vertical height shall be not more than 860mm or less than 760mm from upper surface of top rail to surface of tread in line with face of riser at forward edge of tread.
- Vertical clearance above any stair tread to an overhead obstruction shall be at least 2.1 meters measured from the leading edge of the tread.
- Requirement for Fixed Stairs
- Fixed stairs shall be provided for access from one structure level to another where operations necessitate regular travel between levels and for access to operating platforms at any equipment which requires attention routinely during operations.
- Fixed stairs shall also be provided where access to elevations is required daily or at each shift for purposes such as:
- Gauging, inspection, regular maintenance, etc. where such work may expose employees to hazardous substances; or
- Where carrying of tools or equipment by hand is normally required.

Fragile Surfaces

- Ensure that no one goes onto or near a fragile surface unless that is the only reasonably practicable way for the employee to carry out the work safely, having regard to the demands of the task, equipment, or working environment.
- If anyone goes onto or near a fragile surface or does work on or near a fragile surface:
- appropriate platforms, coverings, guard rails, and the like shall be provided (and used) to minimize the risk;and Warning Tape/Guard rails required to identify the surface publicly)
- Shall do all that is reasonably practicable, if any risk of a fall remains, to minimize the distance and effect of a fall.
- Shall do all that is reasonably practicable to make them aware of the danger, preferably by prominent warning notices fixed at the approaches to the danger zone.

Fall Protection Requirements for Unprotected Edges

- Each employee on a walking/working surface (horizontal and vertical surface) with an unprotected side or edge which is 2 meters or more above a lower level shall be protected from

falling by the use of guardrail systems, safety net systems, or personal fall arrest systems, or other combination of fall protection as addressed in the sections below:

- Regardless of height above the equipment, each employee above dangerous equipment shall be protected from falling into or onto the dangerous equipment by guardrail systems or by equipment guards.
- Each employee engaged in roofing activities on low-slope roofs, with unprotected sides and edges 2 meters or more above lower levels shall be protected from falling by guardrail systems, safety net systems, personal fall arrest systems, or a combination of warning line system and guardrail system, warning line system and safety net system, or warning line system and personal fall arrest system, or warning line system and safety monitoring system. On roofs 15.25 meters or less in width the use of a safety monitoring system alone without the warning line system is permitted; and Each employee on a steep roof with unprotected sides and edges 2 meters or more above lower levels shall be protected from falling by guardrail systems with toe boards, safety net systems, or personal fall arrest systems.

Protection from Falling Objects

- Ensure that all employees exposed to falling objects wear a hard hat.
- Erect toe boards, screens, or guardrail systems to prevent objects from falling from higher levels; or
- Erect a canopy structure and keep potential fall objects far enough from the edge of the higher level so that those objects would not go over the edge if they were accidentally displaced; or
- Barricade the area to which objects could fall, prohibit employees from entering the barricaded area, and keep objects that may fall far enough away from the edge of a higher level so that those objects would not go over the edge if they were accidentally displaced.
- Inspections
- Ensure that fall protection systems are ready and able to perform their required tasks.
- The following, as a minimum, shall be included in the inspection and preventive maintenance procedure:
    - Equipment manufacturer's instructions; and
    - A requirement that all fall protection equipment shall be inspected prior to each use, and also a documented inspection at intervals not to exceed 6 months, or in accordance with the manufacturer's guidelines.
- Ensure that any item is inspected:
    - After it is assembled and before first use.
    - At regular intervals (at periods not exceeding 7 days).
    - Following any substantial alterations; and
    - Following any impact or extreme conditions that may affect the stability of the platform.
- For mobile platforms, inspection at the site is appropriate without the need for reinsertion every time the platform is moved.
- Keep the report of a platform inspection:

At the site until the work is completed; and

- Then at office for another three months.
- Inspect fall protection equipment prior to each use and shall include the following:

- Carefully inspect body belts, safety straps, harnesses, lanyards, lifelines, and connectors for indications of wear and deterioration, or evidence of impact loading.

Visually inspect for the following:

- Webbing or rope cuts, loose stitching, kinks, knots, abrasions, burns, excessive swelling, discoloration, cracks, charring, broken fibers, and chemical or physical exposure.
- Loose, bent or pulled rivets, bent grommets, and broken cuts or burned threads.
- Nicks, cracks, distortion, or corrosion of hardware (buckle, D ring, snap hook).
- Breakaway jacket on deceleration unit of shock absorbing lanyard is intact and has no broken stitches, tears, stretch marks or other evidence of impact loading.
- check all equipment for damage, wear, mildew, or distortion.
- hardware shall be free of cracks, sharp edges, or burns; and
- ensure that no straps are cut, broken, torn, or scraped;
- any fall protection equipment subjected to a fall or impact load shall be removed from service immediately for examination.
- Equipment that is damaged or in need of maintenance shall be tagged as unusable, and shall not be stored in the same area as serviceable equipment; and
- Anchors and mountings shall be inspected before each use by the user and supervisor for signs of damage.

Preparation of Roof Work Areas

- Ensure edge protection systems are installed, inspected, and approved by a qualified person before commencing roof work.
- Provide safety harnesses, ensure they are available where needed, and train employees on their proper use.
- Brief all employees involved in roof work on the safe work system specific to roofing.
- Implement a rescue plan for employees who might fall and become suspended by their safety harness.
- Barricade areas under roof work zones and clearly display warning signs.
- Assess and confirm that weather conditions are safe for starting roof work.
- Identify fragile roof materials and restrict access using rigid barriers and warning signs.

Access for Roof Works

The Line Managers, engineers & supervisors shall ensure that safe access is provided to each roof work area in accordance with the following:

- Access stairs are provided where regular access to the roof is required.
- Ladders are used in only where infrequent access to the roof is required.
- Clear designated walkways are established on the roof.
- Access requirements take into account the requirements for employees to carry any necessary tools and materials; and
- Signage provided to indicate any special access requirements or warnings.

Working on Fragile Roofs

- Fragile roof materials include any material that is not capable of supporting the weight of a person and are typically molded or fabricated sheet materials including but not limited to:
- asbestos cement sheeting / cellulose cement sheet.
- slate.

- glass.
- fiberglass; and
- Acrylic or other similar synthetic materials.
- The Senior Manager/HSE (MR), HSE specialists, relevant Managers, engineers & supervisors:
- Shall identify fragile roof materials and where work is required on the roof a risk assessment must be undertaken.
- Shall ensure that fragile areas of roofs are provided with appropriate walkways including guardrails and toe boards to allow for safe access on the roof.
- Shall ensure that warning signs are clearly displayed at the access point to roofs fabricated with fragile materials.
- Shall take appropriate precautions where fragile roof lights are present on a roof. Precautions shall include the following:
- A permit to work system for all roofs where fragile roof lights are present.
- All personnel working on roofs where fragile roof lights are present shall be trained in the specific control measures of the access and work requirements.
- Fragile roof lights shall be barricaded off were reasonably practicable. Where this is not reasonably practicable fragile roof lights shall be securely boarded over; and
- Proximity restraints may be used in the case of short duration work to prevent access to areas where fragile roof lights are present.

8. Safety Measures for Working on PTCL Poles

1. **Pre-Work Inspection**: Inspect the pole and the surrounding area for any hazards such as unstable ground, overhead electrical cables, and environmental conditions that may pose a risk.
2. **Use of Appropriate Ladder**: Ensure that the ladder used is suitable for the task, adhering to the ladder safety measures outlined previously. The ladder must be securely placed and should extend at least three feet above the pole for safe access and egress.
3. **Linesman Belt**: A linesman belt or safety harness is mandatory for any work on PTCL poles. This belt allows the worker to remain attached to the pole, providing support and preventing falls.
4. **Avoidance of Electrical Hazards**: Before commencing work, ensure all nearby electrical cables are identified and, if possible, de-energized. Maintain a safe distance from any active electrical lines and use non-conductive tools to prevent electrical shocks.
5. **Proper Footwear**: Wear insulated, non-slip boots to ensure stability and protection against electrical hazards when climbing poles.
6. **Fall Protection System**: In addition to the linesman belt, use a full-body harness with a double lanyard to allow movement around the pole while always being securely attached.
7. **Helmet with Chin Strap**: Wear a hard hat with a chin strap to protect against head injuries from falls or falling objects. The chin strap prevents the helmet from falling off during work.
8. **Eye Protection**: Safety glasses or goggles should be worn to protect against flying debris, dust, and other particles.
9. **Insulated Gloves**: Use insulated gloves to protect against electrical shocks and abrasions. Ensure gloves are dry and in good condition before use.
10. **Tool Safety**: All tools should be secured with a tool lanyard to prevent them from falling. Use only tools that are appropriate for the task and in good working condition.

11. **Communication**: Maintain communication with ground personnel. Use radios or other communication devices to alert ground personnel about any issues.
12. **Work Area Setup**: Barricade the work area to prevent unauthorized access and to protect the public and workers from potential hazards.
13. **Traffic Control**: If the pole is near a roadway, implement appropriate traffic control measures to protect both the workers and the passing public.
14. **Weather Considerations**: Do not work on poles during adverse weather conditions such as high winds, rain, or storms, which significantly increase the risk of accidents.
15. **Routine Breaks**: Take regular breaks to reduce fatigue, especially when working at height for prolonged periods.
16. **Debris Disposal**: Properly dispose of any debris or cuttings to maintain a clean work area and prevent tripping hazards.

Required PPE/ Refer to Aerial and buried Network instructions and Guidelines.

- Linesman Belt/Safety Harness
- Insulated, Non-Slip Boots
- Hard Hat with Chin Strap
- Safety Glasses or Goggles
- Insulated Gloves
- High-Visibility Clothing: Depending on the location and time of day, high-visibility clothing may be required to ensure the worker is clearly visible to others, especially near roadways.

9. References

- e& work at height Procedure.
- OSHA 29 CFR 1910.28 - Duty to have fall protection and falling object protection (General Industry)
- ANSI Z359.1 - Fall Protection Code
- ANSI A10.32 - Fall Protection in Construction and Demolition Operations
- ISO 45001 - Occupational health and safety management systems
- BS 8437 - Selection, use and maintenance of personal fall protection systems and equipment for use in the workplace.
- Occupational Safety and Health Act for provinces

10. Annexures:

Annexture A: Sample Risk assessment for Work at height	Annexture A Sample Risk Assesment.pdf
Annexture B: Guidelines for Mobile Elevated Work Platforms (MEWPs),	Annexture B Guidelines for Mobile
Annexture C: Guidelines for Building Maintenance Unit	Annexture C Guidelines for Buildin
Annexture D: Guidelines for Ladder Safety	Annexture D Guidelines for Ladder

Annexture E: Guidelines for Scaffolding Safety	Anexxture E Guidelines for Scaffoli
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Annexture G Safety Precautions for Working on PTCL group Towers	Annexture G Safety Precautions for Worki
Annexure H Guidelines for Safety Nets	Anexxture H Guidelines for Safety I