

Purpose

This document is intended to serve as a reminder of safe work practices and is not a complete presentation of this topic. It should be used by individuals trained and competent in this subject. It is not intended to replace or supersede company procedures, industry standards and/or applicable governmental laws and regulations.

Scope

Fall protection systems should be provided to minimize the risk of falls. Fall protection may include but is not limited to personal fall arrest systems, guardrail systems, and positioning device systems.

Applications

Fixed ladders	Derricks/Masts	Tank tops (When permitted)	Tank/mud pit walkways	Elevated work platforms
Boatswain chairs/riding belts	Elevated pipe runs	Personnel baskets		

Fall protection guidelines in this document apply to fixed ladders and unguarded elevated work areas that may vary depending on the nature and location of the work being performed.

For fall protection issues concerning scaffolding and portable ladders, refer to the HSEA Safe Work Practices on Scaffolding and Portable Ladders.

Hazards

Falling Floor/wall openings	Falling/dropped objects
Vertigo/Acrophobia	

Definitions

Anchor System: A secure point of attachment (capable of sustaining 5,000 pounds) for lifelines, lanyards or deceleration devices.

Boatswain's Chair/Riding Belt: Those devices that secure an employee in a manner that distributes the fall arrest forces over the thighs, pelvis and waist.

Body Harness (Full): Straps which may be secured about the employee in a manner which will distribute the fall arrest forces over at least over the thighs, pelvis, waist, chest and shoulders with means for attaching it to other components of a personal fall arrest system.

Connectors: A device (capable of sustaining 5,000 pounds) used to couple (connect) personal fall arrest system and positioning device systems together.

Conventional Fall Protection: Handrails and guardrails are considered conventional forms of fall protection.

Definitions (Continued)

Deceleration Device: Any mechanism or device such as rope grab, rip stitch lanyard, specially woven lanyard, tearing or deforming lanyard, automatic self-retracting lifeline/lanyards, etc., which serves to dissipate a substantial amount of energy during a

fall arrest or otherwise limit the energy imposed on an employee during fall arrest.

Fall Arrest Systems: A system used to arrest an employee's fall from a working level 10 feet above any surface. This system may consist of anchors, connectors, a full body harness, and may include a lanyard, deceleration device, lifeline, or any suitable combination of this equipment. As of 1/1/98 the use of a body belt for fall arrest is prohibited.

Lanyard: A flexible line of rope, wire rope, or strap which generally has a connector at each end for connecting the body harness to a deceleration device, lifeline, or anchorage. Lanyards, including the extension of the shock absorption system or design, shall be rigged such that an employee can neither free fall more than 6 feet or contact any lower level.

Positioning Device System: A body belt or body harness system rigged to allow an employee to be supported in an elevated vertical surface and work with both hands free while leaning.

Walking/Working Surface: Any surface on which an employee must be located in order to do their job, whether horizontal, sloped, or vertical on which an employee walks or works, including floors, roofs, ramps, runways, or catwalks but not including ladders, vehicles or trailers.

Fall Protection

- Use a fall arrest system when climbing to or working on any unguarded elevated work area. Fall arrest system requirements may vary depending on the nature and location of the work being performed.
- Personal fall protection equipment shall be ANSI approved, used and maintained in accordance with manufacturer's specifications.
- Install tested horizontal or vertical lifelines as a continuous/sliding anchor for lanyard and harness fall protection. Examples of where these may apply include the tops of sheds, motor houses, Frac tanks, or along ladders in derricks or bulk tanks, etc.
- Lanyards should not be used as a climbing or positioning device or as rigging material to secure objects.
- Lanyards should not be hooked directly onto the edge of an I-beam, nor should it be wrapped around the beam and hooked off to itself. An anchor system should be used as lanyards attach points.
- A derrick ladder climbing assist device (angel lift) is not considered an approved form of fall protection. Personnel climbing derricks or any other fixed ladder should be secured to a fall arrest system.
- Personnel should maintain 100% fall protection when moving from one unguarded elevated surface to another over 10 in height.
- Any fall arrest system device that has arrested a fall should be removed from service, inspected and if necessary returned to the manufacturer for inspection, repair or destruction.

Fall Protection (Continued)

- Fall protection shall be inspected periodically by a qualified person. The employee

that is going to wear the equipment shall inspect the Fall Protection prior to use. If not in good condition, the equipment should be removed from service, returned to the manufacturer or destroyed. It should not be repaired or used for any other purpose.

- All employees that inspect and use fall protection systems shall be trained in the use and inspection of such equipment.

Walking/Working Surfaces

- When possible, use conventional fall protection such as handrails, guardrails, toeboards and manway covers to guard elevated work areas greater than 4 feet in height.
- Elevated walking /working surfaces should have a toe-board installed to prevent tools, etc. from falling onto personnel below.
- Access to areas beneath elevated work should be restricted to prevent falling objects from striking personnel below.
- Hand tools used in elevated work areas should have wrist lanyards attached to prevent dropping on personnel below.
- A fall arrest system shall be used when floor or wall openings cannot be protected by a handrail system or covered to prevent employees from falling through the openings.
- A fall arrest system shall be used when rigging up or down in areas such as rig substructures, derrick assembly, mud tanks, or any other elevated work area.
- Good housekeeping should be maintained on Walking/Working surfaces.
- Stairways extending to and from working surfaces with four or more risers shall have permanently affixed hand and mid-rails.
- Tread construction should be of non-skid material.

Boatswain's Chairs/Riding Belts

- Boatswain's chairs and riding belts are not considered forms of fall protection; therefore, a written fall protection plan shall be initiated, explaining why it is infeasible or creates a greater hazard to use a conventional fall arrest system. The plan must explain where fall protection cannot be used and should include a written discussion of other measures that will be taken to reduce or eliminate the fall hazard for workers that cannot be provided with protection from the conventional fall arrest systems. For example: using air/hydraulic hoists to raise/lower employee(s) with a boatswain's chair or riding belt.

Fixed Ladders

- Personnel descending derrick ladders should descend with hands and feet on the rungs.
- Fixed vertical ladders with more than 20 feet of rise must be caged or equipped with a fall arrest system. Cages should extend down the ladder to a point not less than 7 feet or more than 8 feet above the base of the ladder.

Fixed Ladders (Continued)

- Fixed vertical ladders with more than 30 feet of rise must be caged or equipped with a fall arrest system and have landing platform(s), for rest, at 30 foot intervals.
- Fixed vertical ladders should extend 3 foot - 6 inches (42") above the top of the structure to be climbed.
- All ladders shall be inspected regularly, with the intervals between inspections being determined by use and exposure.

References

OSHA 29CFR1910.21 - .28, & .333

OSHA 29CFR1926.500 - .503

ANSI A10.14 Requirements for Lifelines and Harnesses

ANSI A1264.1 Workplace Floor Openings, Stairs and Railings

ANSI A14.3 Fixed Ladders