Work at Height

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Agenda

- Definition and Requirements
- Fall Prevention
  - Scaffolding Safety
- Fall Protection
  - Fall-Arrest System
- Rescue Plan
- Training Requirements
What is Work at Height?

Working at Height:
Work performed where there is potential for a person to sustain injury by falling from one surface to another surface that is not at the same level. Examples:

- Climbing / working on the ladders
- Erecting / dismantle the scaffolding
- Working on scaffolding
- Working on the roof top
- Working on the tower, post etc.
Requirements for Work at Height

- Exhaust all work-at-grade alternatives before beginning work at height (Perform work at ground level instead of at height).
- Hazards associated with working at height shall be identified and mitigated prior to beginning work.
- Fall hazards must be identified and personnel must be protected by
  - fall prevention or
  - fall protection systems.
- Personnel performing work-at-height shall be
  - competent in the roles for which they are responsible.
  - trained in the proper use, maintenance and inspection of the equipment they will be required to use.
Requirements for Work at Height

- Scaffolding must be designed, erected, inspected, labeled and dismantled by competent, trained persons.
- Work-at-height equipment must be inspected periodically to ensure that it is safe to use.
- Persons using fall-arrest systems must not work alone and must use **100 percent tie off**.
- Rescue Personnel who are trained and competent and have the ability to perform work-at-height rescues must be available when fall-arrest systems are being used. Rescue Personnel must also have the correct rescue equipment at the work location.
General Requirements

The hazard analysis shall identify control measures that reduce the potential for injury to personnel working at height. These control measures fall into two broad categories:

- Fall prevention (Preferred Control Measure)
  - A system designed to prevent a person from falling. Fall prevention typically involves the use of engineering controls, such as railings.

- Fall protection
  - A method of mitigating the effects on a person who has fallen. Fall protection is typically accomplished through the use of fall-arrest systems. Other methods include safety nets and air bags.
Fall Prevention: Scaffold Requirements

Requirements for the erection, use and maintenance of scaffolding:

- A Permit to Work is required for erecting scaffolding.
- Scaffolding shall be erected, altered and dismantled only by competent persons or under the supervision of a competent person.
- Scaffolding must use a tagging and inspection system, for example, the Scafftag® system.
- Warning signs and barriers for incomplete scaffolds must be displayed when erecting or dismantling scaffold, and scaffolding must be effectively isolated from entry.
- Scaffolding must be inspected at regular intervals of at least every 7 days by a competent person, or following any modification, or as soon as practicable if the scaffold has been subject to overloading, damage or extreme weather conditions.
- Scaffolds must be inspected daily and prior to use by those using the scaffolds.
- Suitable work area barricades are required during the construction of scaffolding.
Fall Prevention: Scaffold Risks

Common risks when using scaffolds that shall be considered during the hazard analysis and while working at height include:

- Collapse of incorrectly constructed scaffolding.
- Falls during scaffold construction.
- Scaffolding that is inadequately braced or tied to the building or other supporting structure.
- Falls caused by missing scaffold planks, guardrails, midrails, and toe boards.
- Items dropped from the scaffold onto people or equipment below.
- Scaffold collapse caused by impact.
- Persons contacting live electrical wires while on a scaffold.
Fall Protection

A method of mitigating the effects on a person who has fallen, e.g. using fall-arrest systems, safety nets and air bags.
There are 4 components of a Fall Arrest System:

A. Anchor Point/ Anchorage connector
B. Body Wear
C. Connecting Devices
D. Descending Devices
Fall Protection
Fall Arrest System - Body Wear

Full Body Harness

- A full body harness is an assembly of interconnected shoulder and leg straps, with or without a body belt, that is used where there is the likelihood of free or restrained fall.
- Chevron requires full-body harnesses for fall arrest systems.
- Body belts should be used for work positioning only or be used in conjunction with a full-body harness to provide fall protection.
An emergency rescue plan shall be in place prior to work commencing.

Permit Approver must review a fall rescue plan prior to approving a work permit.

Rescue teams that are adequately trained and equipped to perform work-at-height rescues are designated and that can respond in a timely manner.
Work at Height - Emergency Rescue Plan

- Fall rescue equipment (e.g. rescue ladder, suspension trauma safety straps or rescue winch & rescuer safety harness) shall be prepared prior to starting work.
Work at Height - Emergency Rescue

As soon as a fall takes place, the work at height rescue plan must be put into immediate effect and the following persons must be contacted:

- Fall Rescue Team
- Field HES Specialist
- Medic
- First Aid Team

Suspended workers shall be rescued as quickly as possible because they are at risk of suspension trauma which is potentially life-threatening.
Training Requirements – Minimum Skill Requirements

- **Person Conducting Work at Height**
  - Can inspect, don, and adjust fall-arrest systems
  - For personnel using fall-arrest systems, know the symptoms and effects of suspension trauma and how to delay it
  - Can erect a ladder and climb and descend correctly
  - Can inspect a scaffold

- **Rescue Personnel for Fall-Arrest Systems**
  - Can put on, fit, use, and maintain harness and fall arrest systems
  - Can erect a ladder and climb and descend correctly
  - Can operate a rescue winch if part of the rescue equipment
  - Use communication equipment
  - If necessary, can perform an elevated (high angle) rescue
  - Can perform basic first aid and cardiopulmonary resuscitation (CPR) if filling the role of medical response
  - Can position a fallen worker in the appropriate recovery position

- **Safety Standby for Fall-Arrest Systems**
  - Use communication equipment
Training Requirements – Minimum Knowledge Requirements

- **Person Conducting Work at Height**
  - The requirements of the relevant SWP Standards
  - Name and identify Work at Height hazards associated with their task, including suspension trauma for those who wear fall-arrest systems
  - Can state the use, inspection and maintenance of equipment specific for the task
  - Analyze the concept of the hierarchy of controls, pre-contact/contact/post-contact control measures, and can state examples of each
  - Assess the differences between passive and active controls
  - Name the scope of their work that may include scaffolds, portable ladders, mobile elevated platforms, barricading and guarding, etc.
  - Can identify minimum anchor points for equipment
  - Can state their authority to stop work

- **Rescue Personnel for Fall-Arrest Systems**
  - Rescue Plan, procedures, and equipment necessary to rescue persons from work at height
  - Hazards that may be encountered while persons are working at height, including the potential suspension trauma for personnel using fall-arrest systems
  - Signs and symptoms of suspension trauma and syncope
  - Rescue death and first aid response
  - Proper donning/removing and fitting of the harness and inspection and maintenance of the fall arrest system
  - Proper inspection and maintenance of rescue equipment
  - PPE selection and limitations
  - How to put on, use, and maintain fall arrest systems
  - Can identify minimum anchor points for equipment
  - Requirements of the emergency plan
  - How to sound an alarm in the event of an emergency
  - The relevant regulatory requirements
  - Can state their authority to stop work

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  - The requirements of the relevant SWP Standards
  - Hazards that may be encountered while persons are working at height
  - Signs and symptoms of suspension trauma and syncope
  - Rescue and First Aid response
  - PPE selection and limitations
  - Proper donning/removing and fitting of the harness and inspection and maintenance of the fall arrest system
  - Requirements of the emergency plan
  - How to sound an alarm in the event of an emergency
  - The relevant regulatory requirements
  - Can state their authority to stop work
Thank you