

## Fall Arrest Planning

Falls from heights are a leading cause of serious injuries and fatalities in construction projects. To mitigate these risks, NCC T&D must implement fall arrest systems and rescue procedures to protect workers who are at risk of falling. This section outlines the requirements for fall arrest planning, including training, equipment, and rescue procedures.

### Regulatory and Safety Standards

In Saudi Arabia, fall protection must comply with national HSE regulations and, if applicable, the specific standards of clients such as Saudi Electricity Company (SEC) or Saudi Aramco. These regulations require:

- Use of guardrails, travel-restraint systems, fall-arrest systems, or safety nets to protect workers at risk of falling.
- Development of written rescue procedures for workers using fall arrest systems.
- Adequate training for workers on the use of fall protection systems.

### Fall Protection Systems

**Workers at risk of falling must be protected by one of the following systems:**

#### Guardrails:

- Installed at the edges of elevated work areas to prevent falls.
- Must meet height, strength, and spacing requirements.

#### Travel-Restraint Systems:

- Prevent workers from reaching the edge of a fall hazard.
- Include a full-body harness and lanyard anchored to a secure point.

#### Fall-Arrest Systems:

- Arrest a worker's fall before they hit the ground or lower level.
- Include a full-body harness, lanyard, and shock-absorbing device.

#### Safety Nets:

- Installed below elevated work areas to catch falling workers.
- Must be strong enough to absorb the impact of a fall.

### Fall Arrest Planning Requirements

**Before using a fall arrest system or safety net, NCC T&D must:**

#### Develop Written Rescue Procedures:

- Outline steps to rescue a worker after a fall has been arrested.
- Ensure rescue equipment is readily available, and workers are trained to use it.

#### Conduct a Risk Assessment:

- Identify fall hazards and determine the appropriate fall protection system.
- Consider factors such as the height of the fall, swing fall (pendulum effect), and potential impact forces.

#### Provide Adequate Training:

- Train workers on the proper use, inspection, and maintenance of fall protection systems.
- Ensure training is conducted by a competent person and includes both oral and written instructions.

#### Maintain Records:

- Keep written records of training and instruction for each worker.
- Provide these records to inspectors upon request.

## **Employer Responsibilities**

Under Saudi Arabian regulations, employers must:

- Provide and maintain fall protection equipment in good condition.
- Ensure measures and procedures for fall protection are implemented and followed.
- Provide information, instruction, and supervision to protect workers from fall hazards.
- Ensure structures are capable of supporting the loads applied by fall protection systems.

## **Rescue Procedures**

**Rescue procedures for fall arrest systems must include:**

### **Immediate Response:**

- Ensure a worker can be rescued promptly after a fall is arrested.
- Designate trained rescue personnel and provide them with the necessary equipment.

### **Rescue Equipment:**

- Provide rescue harnesses, ropes, winches, and ladders for fall rescue operations.
- Ensure equipment is inspected regularly and maintained in good condition.

### **Training and Drills:**

- Conduct regular drills to practice fall rescue procedures.
- Ensure all workers are familiar with the rescue plan and their roles.

## **Training Requirements**

**Workers who may use fall protection systems must receive training that includes:**

- The hazards of working at heights.
- Proper use, inspection, and maintenance of fall protection equipment.
- Rescue procedures and emergency response.
- Hands-on demonstrations of fall protection systems.

## **Additional Considerations for NCC T&D Projects**

**Given the high-risk nature of NCC T&D's operations, the following measures are recommended:**

- Conduct pre-work hazard assessments to identify fall hazards.
- Use engineered anchor points for fall protection systems.
- Implement real-time monitoring to ensure compliance with fall protection procedures.
- Ensure all workers are equipped with appropriate PPE, including harnesses and lanyards.

For more information, refer to NCC T&D's relevant IMS procedures or consult our HSE Department for expert guidance and training resources aligned with Saudi Arabian regulatory requirements.