Fall Protection

If your crews work at heights, how can you be sure you're doing enough to protect them from vertical fall hazards? Here are six easy ways supervisors can help in implementing and enforcing their company's fall protection program.

What's at Stake

Falls from heights kill over 1,000 workers a year and seriously injure or disable countless more workers.

- Falls are the number 2 cause of lost time injuries;
- Over 40,000 workers suffer fall injuries each year, nearly 110 per day;
- The average fall injury costs employers $3,500 in direct costs;
- Losses balloon to $21,000 when you add indirect costs like replacing injured workers, equipment repairs, etc.

6 Ways to Prevent Falls from Heights

Your company may rely on you to do six things before any work from heights starts. Work with your safety director and talk with the employees doing the work; they have experience when it comes to safety regulations and workers have first-hand knowledge on the hazards they face.

1. Help Assess Vertical Fall Hazards

Safety regulations specify when fall protection for workers working at heights is required based on:

- How high up they are (typically 6 feet/3 meters or higher);
- The surface or platform they work on (e.g., vehicles, scaffolds, sloped roofs); and
- What they're at risk of falling through, on or into (e.g., machinery, hard surfaces, water).

2. Help Select Fall Protection Measures

As with any other hazard, total elimination is the preferred method of dealing with fall hazards, but, it's often not possible to eliminate the fall hazards. That's where barriers, other controls, and fall protection equipment comes into play.

There are two basic types of fall protection barriers:

Guardrails consist of a top rail, intermediate rail and toeboard installed around or in front of an opening to prevent somebody from falling into it. Requirements for guardrail design, construction, installation and use vary. Talk to your safety director for specifics on:

- How close to the edge the guardrail must be installed;
- The minimum height of the top rail;
- The maximum amount of space between rails/toeboard;
- How tall the posts must be and how far apart they can be spaced;

TOOL

Use the Fall Protection Hazard Assessment on page 9 to carry out your own assessment.

Find more related tools at SafeSupervisor.com

- What materials the rails must be made of; and
- How much force the guardrail must be capable of resisting.

Protective Coverings are used to seal openings workers may step, slip or fall into. Safety regulations require coverings:

- Completely cover the opening;
- Be securely fastened or held in place;
- Be made of material strong enough to support the expected load without collapsing; and
- Be clearly identified as covering an opening.

Other Controls

- Supplement physical barriers with passive fall protection systems including warning signs and safety nets that cushion any falls that do occur.
- Remember, safety nets must meet specific design and use criteria around materials, strength, elasticity and how high above the surface they're installed.

Active Fall Protection Systems. The next line of controls are active fall protection systems. They prevent or stop falls by securing workers to an anchorage point attached to their bodies via a lifeline or lanyard connected to a harness. There are two basic types of fall protection systems you can use:

- *Travel or Fall Restraint Systems* prevent falls by limiting workers' mobility so they can't get to the edge or opening.
- *Fall Arrest Systems* stop falls before the worker hits the ground or dangerous thing below.

Because they don't prevent falls the way travel restraint systems do, fall arrest systems are lower on the preference list. Another concern with fall arrest systems is that arresting a fall can put a lot of stress on the body creating physical shock that can injure or even kill the worker. So, fall arrest systems are subject to stricter design, use and installation requirements regarding:

- How far they can let a worker fall before arresting it; and
- How much force they can exert on the worker's body in arresting the fall.

3. Know Your Company's Administrative and Work Practice Controls

Controls affecting how the work is done are commonly called administrative or work practice controls (safe work practices). Key work controls for vertical fall hazards include:

- **Fall Protection Programs** setting out a complete plan for hazard assessment, system installation, inspection and maintenance, rescue and safety training.
- **Safe Work Practices** for working at heights, assembling and disassembling fall protection systems and rescuing workers swiftly and safely after their fall is arrested.
- **Equipment Inspection and Maintenance** including daily field inspection before each use to check for dangerous defects like:
  - Cuts, tears, abrasions, burns, mold, stretching, corrosion and other damage;
  - Water damage or corrosion in ropes;
  - Distorted hooks and faulty hook springs;
  - Cracked, broken or deformed D- and O-rings or snaphooks;
  - Loose, damaged or nonfunctioning parts and mountings; and
  - Unauthorized repairs or alterations that harm equipment effectiveness.

Fall arrest systems and their components also need to be re-inspected after each incident in which a fall is arrested. You also need a way for workers to report damages and defects and ensure that defective equipment is taken out of service immediately.

4: Help in Selection and Use of PPE

PPE is the last line of defense used as a supplement rather than a substitute for fall protection systems. PPE for vertical fall hazards include:

- Full body harnesses attached by a lanyard or lifeline to an independent and secure anchor system;
- Shock absorbers on lanyards or lifelines to cushion the force of arresting the fall;
- Hardhats, knee, elbow and other pads to cushion any falls that do occur;
- Shoes with slip-resistant soles to prevent slips;
- Life jackets or flotation devices where work is performed above water or other liquids in which workers could drown; and
- Rescue equipment like a speed boat or heaving line for work above water.

TOOL

Use the Fatality Report on page 2 to capture workers and drive home the message that fall protection is literally a matter of life and death.

Give your workers the Fall Protection Safety handout on page 6 if they are exposed to fall hazards.

Find more related tools at SafeSupervisor.com

5: Delivering Fall Protection Training

Workers aren't allowed to use a fall protection system unless and until they successfully complete training in its safe use. At a minimum, training must cover:

- The fall hazards to which the workers are exposed;
- The fall protection measures and systems used;
- Assessment and selection of anchors;
- Proper use of connecting hardware;
- How to inspect and care for the equipment;
- The impact of falls and fall arrest on the human body; and
- The safe work and rescue procedures to follow.

6: Coordinating with Contractors

Finally, fall protection must also account for the contractors who work at your site. At a minimum, you must notify contractors of the fall hazards to which their workers will be exposed. Then it becomes a matter of coordinating safety measures with the contractor. How you do that will depend on which of you is legally responsible for carrying out the work safely and in compliance with safety laws. For example:

If you, as the **employer**, are in charge:

- Give the contractor your fall protection plan and/or safe work procedures;
- Require the contractor to communicate the plan and/or procedures to its workers and ensure that they'll comply; and
- Have the contractor verify that its workers are properly trained to use the fall protection required.

If the **contractor** is in charge as a prime or controlling contractor or constructor, require it to either:

- Follow your fall protection plan and/or safe work procedures, if you have them in place; or
- Furnish fall protection that meets the requirements of required safety regulations.