

# U.S. Department of Labor

Occupational Safety and Health Administration  
Washington, D.C. 20210



January 13, 2000

Mr. Peter G. Chaney  
Mechanical Contractors Association of America, Inc.  
1385 Piccard Drive  
Rockville, MD 20850-4340

RE: [29 CFR 1926] Subpart X

Dear Mr. Chaney:

This is in response to your May 26, 1999, letter in which you ask for clarification of several issues relating to the use of fall protection when working from ladders during construction work. You specifically ask if OSHA has any requirements for the use of fall protection when working from ladders at heights greater than six feet. We apologize for the lateness of this response.

**Fixed ladders: fall protection must be provided for employees climbing or working on fixed ladders above 24 feet.**

29 CFR 1926.1053(a)(19) states that fall protection must be provided whenever the length of climb on a fixed ladder equals or exceeds 24 feet. A fixed ladder is "a ladder that cannot be readily moved or carried because it is an integral part of a building or structure" (§1926.1050(b)). Also, even if the length of climb is less than 24 feet, under §1926.1053(a)(18), cages, wells, ladder safety devices, or self-retracting lifelines must be provided where the top of the fixed ladder is greater than 24 feet above lower levels.

**Portable ladders: fall protection is not required for employees climbing or working on portable ladders.**

Neither the ladder standard (29 CFR 1926, subpart X) nor the fall protection standard (29 CFR 1926, subpart M) requires fall protection for workers while working on portable ladders.

You note that a number of general contractors in Georgia "are attempting to require personal fall arrest systems for their subcontractors working on ladders 6 feet or higher." Although the OSHA standards do not require fall protection for workers on fixed ladders below 24 feet or on portable ladders, we encourage employers to provide additional protection.

**Personal Fall Arrest Systems can be set up to limit arrested falls to less than 15 feet.**

In your letter you assert that personal fall arrest systems will not arrest a fall from an elevation lower than 15 feet. When anchored above the worker, a typical personal fall arrest system will arrest a fall in 6 feet or less. Using a six foot lanyard, a fall distance as high as approximately 14 feet would result only if the system were anchored at the worker's feet, as explained below.

Several factors must be considered in determining how much distance will be needed for a fall arrest system to work -- to prevent the worker from contacting the next lower level. First, under §1926.502(d)(16)(iii), a personal fall arrest system must prevent the employee from contacting the level below. A 6 foot lanyard that incorporates a shock absorbing system may have a total extension of up to about 9 1/2 feet before a fall is completely arrested. Because the lanyard is attached to the body harness at a point that is more than half-way up the body, an additional distance of about 3-4 feet must be added to assure that no part of the employee's body makes contact with the surface.

Second, under §1926.502(d)(16)(iii), a personal fall arrest system must limit an employee's free fall to not more than six feet. "Free fall" is defined in the standard as "the vertical displacement of the fall arrest attachment point on the employee's . . . body harness between onset of the fall and just before the system

begins to apply force to arrest the fall." If a 6 foot lanyard is rigged to an anchorage at floor level, the total free fall would be the sum of the vertical distance between the attachment point on the body harness and the floor (usually 4 to 4 1/2 feet) plus the length of the lanyard (6 feet in this example), which totals about 10 feet. That means that the use of a 6 foot lanyard, rigged to an anchorage at the worker's feet would result in a free fall in excess of the 6 foot limit. That would only be allowed where the employer cannot provide a more suitable anchorage or other form of fall protection.

Where a person is standing on the surface to which the arrest system is anchored, if a fall occurred, the person would first fall the distance of the anchor point to the location of the lanyard attachment on the body harness, which is usually approximately 4 1/2 feet (this will vary with the height of the worker). The worker would then fall the length of the lanyard, which in this example is 6 feet. Finally, assuming a shock absorbing system were incorporated into the lanyard, the worker would fall another 3 1/2 feet if the full length of the shock absorber was used. The total of these distances is about 14 feet.

Remember that in many situations fall distances can be eliminated altogether by using restraint systems, which are set-up to prevent the worker from stepping past the walking/working surface edge. These systems are often attached to catenary lines. In work involving the construction of a "leading edge" (where the work surface itself is being constructed and advances as the work progresses), the catenary line is periodically advanced to keep pace with the advancing work. Retractable lanyards are another option that can often be used.

**OSHA's decision not to require the use of personal fall arrest systems in other situations while working on ladders.**

Apart from the above requirements, you ask why OSHA did not require the use of personal fall arrest equipment whenever an employee is working 15 feet or higher on a ladder (you do not specify whether you are asking this with respect to fixed or portable ladders or both). You suggest that this may have been due to fall arrest systems causing a "greater hazard."

The preamble to the standard does not explain why fall arrest equipment was not mandated for situations other than those specified in §1926.1053(a)(18) and (19). However, the use of personal fall protection does not generally result in a greater hazard. Working without fall protection continues to be one of the leading causes of fatalities in the construction industry.

**OSHA jurisdiction in Georgia**

You also ask for a statement that Georgia is under the jurisdiction of Federal OSHA; it is.

If you require any further assistance, please do not hesitate to contact us again by writing to: Directorate of Construction - OSHA Office of Construction Standard and Compliance Assistance, Room N3468, 200 Constitution Avenue N.W., Washington D.C. 20210.

Sincerely,

Russell B. Swanson, Director  
Directorate of Construction