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Standard Interpretations - Table of Contents

- Standard Number: 1926.450(b); 1926.451; 1926.451(e); 1926.451(f)(3); 1926.451(g); 1926.451(g)(1)(vii); 1926.452(b)(1); 1926.452(b)(2); 1926.452(b)(3); 1926.452(w); 1926.453; 1926.453(b)(2)(v); 1926.454; 1926.454(c); 1926.502

OSHA requirements are set by statute, standards and regulations. Our interpretation letters explain these requirements and how they apply to particular circumstances, but they cannot create additional employer obligations. This letter constitutes OSHA's interpretation of the requirements discussed. Note that our enforcement guidance may be affected by changes to OSHA rules. Also, from time to time we update our guidance in response to new information. To keep apprised of such developments, you can consult OSHA's website at http://www.osha.gov.

February 23, 2000

Mr. Thomas L. Dahl
Venture Safety Engineer
Newberg-Perini Stone & Webster
6500 North Dresden Road
Morris, Ill 60450

RE: Subpart "L" and Appendices, Scissors Lifts

Dear Mr. Dahl:

This is in response to your May 26, 1998, letter in which you ask the following series of questions relating to Subpart L, scaffolds. Please accept our apology for the long delay in responding to this inquiry.

Question 1: What OSHA standards (the aerial lift requirements in §1926.453 or the mobile scaffold requirements in §1926.452(w)) apply to standard vertical manlifts, such as scissors lifts and "Genie lifts"?

How to determine when the aerial lift requirements apply

The aerial lift requirements (§1926.453) incorporate by reference the definition of aerial lifts used in the American National Standards Institute (ANSI) A92.2-1969 standard. Therefore, these requirements apply to equipment identified in that 1969 ANSI consensus standard as aerial lifts. The ANSI standard definition includes certain vehicle-mounted elevating and rotating work platforms, namely "extensible boom platforms," "aerial ladders," "articulating boom platforms," "vertical towers," and "a combination of any of the above."

Scissors lifts

Because scissors lifts do not fall within any of these categories, scissors lifts are not addressed by the aerial lift provisions of Subpart L. There are no OSHA provisions that specifically address scissors lifts; but, since scissor lifts do meet the definition of a scaffold (§1926.451), employers must comply with the other applicable provisions of Subpart L when using scissors lifts. Since scissors lifts are mobile, the specific requirements for mobile scaffolds in the scaffold standard (§1926.452(w)) must be met.

NOTE: On January 7, 1997, OSHA issued a Directive [ CPL 02-01-023 (formerly CPL 2-1.23)] titled "Inspection procedures for Enforcing Subpart L, Scaffolds Used in Construction - 29 CFR 1926.450-454." In that directive, OSHA erroneously stated that "scissors lifts are addressed by §1926.453." This letter revokes and supercedes that statement; we are in the process of marking the 1997 directive that is on the Internet accordingly.

"Genie lifts"

With respect to "Genie lifts," we note first that there are many different types of lifts manufactured by the Genie company. However, many employers use the term "Genie lift" to refer to this company's mobile, extensible boom lift. Mobile, extensible boom lifts do meet the 1969 ANSI definition of an aerial lift. Therefore, the aerial lift provisions contained in §1926.453 apply to that company's mobile, extensible boom lifts.

Question 2: Are employees required to be tied-off when working in the basket of a "standard vertical manlift"?

Answer: Your use of the term "standard vertical manlift" encompasses a variety of different types of equipment, some of which would meet the 1969 ANSI definition of an aerial lift, and so be covered by the aerial lift provisions, and some of which would not meet that definition, and would be covered by the other scaffold provisions. The requirements for tying-off differ depending on whether the equipment is considered an aerial lift.

Tie-off requirements for equipment covered by the aerial lift provisions (§1926.453)

Section 1926.453(b)(2)(v) provides that employees must be tied-off "when working from an aerial lift." A body belt is permitted only if it is part of a restraint system (a system that prevents the worker from being exposed to any fall). Otherwise, a body harness must be used and the equipment must meet the requirements of a fall arrest system in §1926.502.

The purpose of this requirement is to protect employees from being bounced out/off of the basket/work platform when maneuvering to a work location, or placing themselves in a position in which they could be exposed to a fall by climbing/leaning over and placing their center of gravity outside the basket.

**Tie-off requirements for equipment covered by the other scaffold provisions (§1926.451, 1926.452, 1926.454)**

As discussed above, scissor lifts are covered by the non-aerial lift portions of the scaffold standard. Therefore, §1926.451(g) applies, which requires that employees on a scaffold more than 10 feet above a lower level must be protected from falling by restraint systems, fall arrest systems, or guardrails (Note: the standard mandates guardrails for some types of scaffolds). Tying-off is not required where protection is afforded by guardrails.

**Question 3:** Do the training requirements of §1926.454 apply to equipment considered aerial lifts under §1926.453?

**Answer:** Yes, the training requirements apply to all equipment covered by Subpart L, which includes aerial lifts covered by §1926.453.

**Question 4:** When employees move from job site to job site, must employers retrain employees on how to operate a lift prior to each job?

**Answer:** Section 1926.454 states that employers "shall have each employee who performs work while on a scaffold trained by a person qualified in the subject matter to recognize the hazards associated with the type of scaffold being used and to understand the procedures to control or minimize those hazards...." If there are hazards associated with the operation of the equipment on the new job site for which the employee has not been trained, then additional training would be required. For example, there may be electrical hazards, falling object hazards, and hazards associated with the terrain on the new job site that were not present at the previous site. Training addressing those new hazards would be required.

**Question 5:** If we hire employees that have received scaffold training from their previous employer, do we need to retrain them.

**Answer:** You do not need to retrain employees who work on scaffolds as long as you determine that the employee possesses the proficiency required by the pertinent provisions of Subpart L (see volume 61 of the Federal Register on page 46098, Aug. 30, 1996).

**Question 6:** According to the standard, there is no specified time frame in which employers must retrain employees on the use of scaffolds. Assuming retraining is needed, at what point must that retraining be provided?

**Answer:** This depends on what triggers the need for the retraining. Section 1926.454(c) states that you must retrain employees when there is "reason to believe that the employee lacks the skill or understanding needed for safe work involving the erection, use or dismantling of scaffolds."

*Example A:* If you trained all employees on conditions existing at a previous job site and then brings the employee to a new job site with additional hazards, retraining must be provided regarding those new hazards prior to the employee starting work.

*Example B:* If changes occur at the worksite that present a hazard for which an employee has not been previously trained, you must provide the retraining as soon as it becomes aware of those changes.

*Example C:* If changes occur in the types of scaffolds, fall protection, falling object protection, or other equipment that present a hazard for which an employee has not been previously trained, retraining must be provided as soon as those changes occur.

*Example D:* If an employee demonstrates a lack of proficiency in safe scaffold use, retraining must be provided as soon as that becomes apparent.

**Question 7:** We may have over 400 scaffolds erected at one time, but not all of them are always in use. Are we required to inspect all of these scaffolds every day, prior to each shift, or can we inspect them prior to a work crew using the scaffold?

**Answer:** Section 1926.451(f)(3) provides that, "scaffolds and scaffold components shall be inspected for visual defects by a competent person before each work shift, and after any occurrence which could affect a scaffold's structural integrity." This provision applies to scaffolds that are in use. Scaffolds that are not in use generally do not need to be inspected daily, but they must be inspected by a competent person before the first work shift uses the scaffold and reinspected each time there is a change in work shifts.

In addition, scaffolds must be inspected after any occurrence which could affect the scaffold's structural integrity. This applies to scaffolds that are not being used at the time of such occurrence if there are employees exposed to the danger of a scaffold collapse.

**Question 8:** Can we train our foremen to be "competent persons" and have them inspect the scaffolds before authorizing their crews to use them?

**Answer:** Yes, OSHA does not prohibit you from training your foremen as competent persons as long as the foremen have the ability to "identify existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees," and have the "authorization to take prompt corrective measures to eliminate them," as specified in Subpart L.

**Question 9:** How do employees get to be competent and who designates their competency?

**Answer:** The competent person is designated by the employer. The definition of a competent person is: "one who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees and who has authorization to take prompt corrective measures to eliminate them." The preamble to Subpart L (volume 61 of the Federal Register at page 46059, Aug. 30, 1996) gives the following example of what is required to become a "competent person:"

For example, a "competent person" for the purpose of this provision must have had specific training in and be knowledgeable about the structural integrity of scaffolds and the degree of maintenance needed to maintain them. The competent person must also be able to evaluate the effects of occurrences such as a dropped load, or a truck backing into a support leg that could damage a scaffold. In addition, the competent person must be knowledgeable about the requirements of this standard. A competent person must have training or knowledge in these areas in order to identify and correct hazards encountered in scaffold work.

**Question 10:** An individual is an experienced safety engineer who would qualify as a competent person but has not worked in that capacity (so has never been formally designated as a competent person by an employer). Does the scaffold standard permit such a individual to train other employees to be "competent" to perform the required scaffold inspections?

**Answer:** Yes. The standard does not specify qualifications for trainers of competent persons. The trainer of individuals who are to serve as competent persons need not also be (or have been) a "competent person." A competent person must have not only sufficient knowledge of scaffold hazards but also **authority** to correct such hazards. A trainer of competent persons need not have such authority. Your obligation is to ensure that the person whom you designate as a competent person has the requisite knowledge to perform the duties of a competent person.

**Question 11:** For scaffolds other than those covered by §1926.451(g)(1)(i)-(vi), does §1926.451(g)(1)(vii) permit employers to use personal fall arrest systems instead of guardrails on scaffolds greater than 10 feet high?

**Answer:** Section 1926.451(g)(1)(vii) provides that, "for all scaffolds not otherwise specified in paragraphs 1926.451(g)(1)(i) through 1926.451(g)(1)(vi) of this section, each employee shall be protected by the use of personal fall arrest systems or guardrail systems meeting the requirements of paragraph (g)(4) of this section [emphasis added]." Employers may use personal fall arrest systems meeting the

requirements of §1926.502(d), instead of guardrails on scaffolds other than those covered by §1926.451(g)(1)(i) through 1926.451(g)(1)(vi). For example, if an employee needed to work on a section of scaffold that had an open side, without guardrails, then the employee must use a personal fall arrest system.

**Question 12:** Non-Mandatory Appendix A states in section (f) that screens will consist of No. 18 gauge U.S. Standard wire. Can employers substitute an equivalent strength screen for the falling object protection?

**Answer:** Yes. Non-Mandatory Appendix A provides guidelines to assist employers in complying with the requirements of Subpart L. Although following the requirements set forth in Appendix A will assure compliance with Subpart L, these requirements are not the only methods of compliance with the standard. Equivalent materials may also be used.

**Question 13:** In regards to Non-Mandatory Appendix A, the old scaffold standard allowed the use of 1.90" O.D. bearers for the construction of a heavy duty scaffold, provided that the post spacing was decreased accordingly. This has been deleted from the current Non-Mandatory Appendix A. Can employers still use 1.90" O.D. bearers if they decrease the post spacing accordingly?

**Answer:** Yes, as long as the qualified person determines that the design is sufficient under Subpart L.

**Question 14:** What are OSHA's current requirements for "X" bracing and longitudinal bracing of Tube and Coupler Scaffolds? How would you brace a scaffold that is 6' long by 6' wide by 10' tall?

**Answer:** The requirements for "X" bracing and longitudinal bracing of Tube and Coupler Scaffolds are in §1926.452(b)(1) through 1926.452(b)(3). Sections 1926.452(b)(2) and 1926.452(b)(3) provide:

(b)(2) Transverse bracing forming an "X" across the width of the scaffold shall be installed at the scaffold ends and at least at every third set of posts horizontally (measured from only one end) and every fourth runner vertically. Bracing shall extend diagonally from the inner or outer posts or runners upward to the next outer or inner posts or runners. Building ties shall be installed at the bearer levels between the transverse bracing and shall conform to the requirements of §1926.451(c)(1).

(b)(3) On straight run scaffolds, longitudinal bracing across the inner and outer rows of posts shall be installed diagonally in both directions, and shall extend from the base of the end posts upward to the top of the scaffold at approximately a 45 degree angle. On scaffolds whose length is greater than their height, such bracing shall be repeated beginning at least at every fifth post. On scaffolds whose length is less than their height, such bracing shall be installed from the base of the end posts upward to the opposite end posts, and then in alternating directions until reaching the top of the scaffold. Bracing shall be installed as close as possible to the intersection of the bearer and post or runner and post.

If you were to have a 6' long by 6' wide by 10' tall scaffold, you would need to have "X" bracing on the ends of the scaffold, and longitudinal bracing on the front and back of the scaffold. Pages 65 and 71 of OSHA's publication 1350, "A Guide to Scaffold Use in the Construction Industry," is enclosed. These pages have diagrams on the proper bracing of Tube and Coupler Scaffolds. (Note: the scaffold diagram on page 71 should have another "X" bracing on the far end of the scaffold.)

**Question 15:** With regard to §1926.451(e), Access, can the employer set an intermediate post and remove a portion of the mid-rail or both the toprail and mid-rail to allow employees access underneath the guardrail at the ladder?

**Answer:** If you want to remove a portion of the midrail and/or toprail to facilitate access, you must replace the removed components with a gate or similar device. When gates are used, they must remain closed when not in use. In the absence of a gate or similar device, personal fall protection would have to be used to protect those working near the opening.

**Question 16:** Can an employer omit mesh or screening (used for falling object protection) at the ladder access point if tools and materials are kept away from the access point?

**Answer:** Under the direction of the "competent person," a portion of the mesh or screening may be removed as long as there is no falling object hazard. If employees are going to work in the vicinity of the access point, and there is a possibility of tools or materials being stacked near the access point, then the mesh or screening must be replaced.

**Question 17:** Sometimes it is infeasible to install scaffold guardrails because there is an obstruction, such as permanent plant equipment or piping. For example, many times employees have to navigate through process piping that prevents the installation of guardrails. Can the "competent person" determine that the installation of guardrails around some portions of the platform is infeasible and creates a hazard to employees? If so, can non-hazardous permanent plant equipment, such as piping, be utilized in lieu of the guardrails?

**Answer:** Non-hazardous, permanent plant equipment that provides protection equal to or greater than that of guardrails may be used instead of the scaffold guardrails. In the absence of such a guardrail substitute, personal fall protection would have to be used.

If you need additional information, please contact us by fax at: U.S. Department of Labor, OSHA, Directorate of Construction, Office of Construction Standards and Guidance, fax # 202-693-1689. You can also contact us by mail at the above office, Room N3468, 200 Constitution Avenue, N.W., Washington, D.C. 20210, although there will be a delay in our receiving correspondence by mail.

Sincerely,

Russell B. Swanson, Director  
Directorate of Construction

[Corrected 6/2/2005]

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