

**SUBJECT:** Fixed Ladders on Towers

**Purpose:** To clarify the application of the fixed ladder standards (1910.27, Subpart D) to water towers, communication towers, and ski lift towers.

**Scope:** This directive applies MNOSHA-wide.

- References:**
1. Federal OSHA letter of interpretation, dated June 2, 1999, to the National Ski Areas Association concerning OSHA's policy with respect to the application of ladder requirements and fall protection to ski lift towers.
  2. MNOSHA Instruction CPL 2-1.29A CH-1, "Interim Inspection Procedures During Communications Tower Construction Activities," dated February 22, 1999.

**Cancellations:** This directive cancels STD 1-1.3 B issued August 30, 2005.

**Background:**

The current OSHA regulation for ladders (1910.27) requires that fixed ladders over 20 feet in length be equipped with cages or ladder safety devices. Conflict exists concerning how the requirements of 1910.27 apply to water towers, communication type towers and ski lift towers. Ladder cages are infeasible on communication-type towers because of their bulk and weight. The limited area of water tower legs makes providing landing platforms and offsets infeasible. On ski lift towers, ladder cages present a significant hazard to riders using the ski lifts because their skis could become entangled in the cage structure and, in bad weather, the possibility of ice accumulation on the cage creates a potential for structural failure.

However, the source document for 29 CFR §1910.27, ANSI A14.3-1956, Safety Code for Fixed Ladders, has been revised several times since its adoption by OSHA in 1971, and its most current version, ANSI A14.3 2008, "American National Standard for Ladders -- Fixed -- Safety Requirements," allows fixed ladder usage without cages or wells for a ladder length of up to 24 feet. In addition, on May 2, 2003, OSHA reopened its Proposed Rule for Walking and Working Surfaces and Personal Protective Equipment, see *68 Federal Register* 23528. This proposed rule would amend §1910.27(d)(1)(ii) to reflect the current ANSI standard of 24 feet **10/05/2004 - Ladder safety requirements for towers more than 20 feet in length: sliding fall protection devices, or safety cages/wells are required. ANSI A14.3- 2008 standard provides that landing platforms are not required on fixed -ladders with cages less than 50 feet in length; for fixed ladders with cages extending a maximum unbroken length of 50 feet, landing platforms are required at 50-foot intervals..**

**Action:**

**A. Alternative to Cages for Fixed Ladders**

There are no exemptions for water towers, communication towers, or ski lift towers under 1910.27. Paragraphs 1910.27(d)(1)(ii) and (d)(5) require cages or ladder safety devices on ladders more than 20 feet in length. However, on those towers where cages or platforms and offsets are not feasible, the current OSHA standard allows an alternative to fixed ladder cages, as long as the employer provides for 100 percent fall protection during ascent or descent of the ladder. One example of such a system that can be used for maintenance or other operations which require the ascending and descending of towers, would be a fall protection system consisting of a climbing belt or harness equipped with two short lanyards that incorporate snaphooks on the end of the lanyard. The climber would use the system by alternately attaching to the ladder rungs during the climb up or down. Once in place to do work, the climber would be required to be "tied off" or otherwise protected from falling.

Citations will be issued for lack of fall protection on ladders, water towers and communication towers. Where cages with platforms and offsets are not feasible, ladder climbing devices must be used: provided that (1) the employer shows that the process of installing ladder safety devices, cages or wells

on the fixed ladder would pose a greater hazard, and (2) the fixed ladder is climbed no more than twice per year (§ 1910.23(a)(2), 55 FR 13398). Once qualified climbers reach their work location, however, they must use fall protection.

B. Emergency Conditions

In the event of an emergency or other similar situation where the required use of a ladder climbing device such as a double-clipping lanyard system, would delay a rescue or otherwise endanger lives, workers complying with the "Qualified Climber" requirements of proposed new paragraph 1910.32(b)(5) would be allowed to climb the tower. [See Appendix A] The worker would be required to be "tied off" once reaching their work position. The employer would be required to demonstrate that an actual emergency situation existed.

C. Ski Lift Towers - Dimensions and Clearances of Ladder Rungs

The fixed ladder standard specifies that the length (distance from side to side) of a ladder rung shall not be less than 16 inches and that the toe clearance from the centerline of the rungs to obstructions behind the ladder (or ski tower) be at least 7 inches. The National Ski Area Association has pointed out that many of the ski towers in the United States are less than 16 inches in diameter. For those towers, a 16 inch long ladder rung would create an unacceptable hazard for passing skiers, whose skis may become entangled in that portion of the rung that protrudes beyond the sides of the ski tower. In addition, the requirement for a 7-inch toe clearance tends to create a similar hazard.

For ski towers equipped with ladders that do not meet the minimum requirements, a ladder climbing device such as the double clip harness system described above as an alternative to the ladder cage requirement would be deemed an acceptable safety procedure as long as instruction was provided to all workers reasonably expected to climb towers. The instruction should be part of the training required in the "Qualified Climber" program and should identify the specific towers at the ski area that have inadequate toe clearance and ladder widths and must be climbed using proper fall protection. In the event of an emergency, a qualified climber may climb the tower without fall protection.

D. Communication Towers - During Construction.

Inspection guidelines for inspecting communication towers during construction are provided in MNOSHA Instruction CPL 2-1.29A CH-1, dated July 27, 2009.

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Distribution: OSHA Compliance and WSC Director

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APPENDIX A

**REQUIREMENTS FOR “QUALIFIED CLIMBERS”**

Requirements for “qualified climbers” were included in Federal OSHA’s proposed revisions to Subpart D of Part 1910. Public hearings were held in September 1990; Federal OSHA is currently analyzing the record to determine if the standard should be repropose or if a final rule, based on the existing record, should be issued. No final action date has been determined

The "qualified climber" requirements in proposed<sup>1</sup> 1910.32(b)(5) are as follows:

- a. Qualified climbers shall be physically capable (demonstrated through observations of actual climbing activities or by a physical examination) of performing the duties which may be assigned to them;
- b. Qualified climbers shall have successfully completed a training or apprenticeship program that covered hands-on training for the safe climbing of ladders or step bolts and shall be retrained as necessary to ensure the necessary skills are maintained;
- c. The employer shall ensure through performance observations and formal classroom or on-the-job training that the qualified climber has the skill to safely perform the climbing;
- d. Qualified climbers shall have climbing duties as one of their routine work activities; and
- e. Qualified climbers, when reaching their work positions, shall be protected by an appropriate fall protection system.

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<sup>1</sup> 1910.32(b)(5) was proposed for adoption by Federal OSHA in April 1990 and remains a proposal at this time. The standard has not been finally adopted. However, the “qualified climber” criteria have been referenced in other federal directives as well as in MNOSHA Instruction STD 1-1.14, “Fixed Ladders on Billboards.”