

## CHAPTER 10. FALL PROTECTION PROGRAM

**1000 GENERAL.** This chapter establishes policy for developing fall protection programs to protect all Federal Aviation Administration (FAA) personnel working at elevated heights from injuries or death due to a fall. The Department of Labor lists falls as one of the leading causes of traumatic occupational death, and OSHA estimates that there are at least 68,000 fall-related injuries annually in the construction industry alone. Fall protection standards are outlined in OSHA General Industry Standards under 29 CFR Subpart D, Walking Working Surfaces and in OSHA Construction Standards under 29 CFR 1926, Subpart M, Fall Protection; 29 CFR 1926.104, Safety Belts, Lifelines, and Lanyards; 29 CFR 1926.105, Safety Nets; and 29 CFR 1926.106, Working Over or Near Water. National consensus standards also provide guidelines for technical issues related to fall protection and elevated work surface exposures and associated controls. Figure 10-1, Cross References to OSHA and national consensus standards, contains a cross reference of applicable American National Standards Institute (ANSI) and American Society for Testing and Materials (ASTM) standards to OSHA.

**1001 SCOPE.** This chapter applies to all FAA personnel. This includes, but is not limited to, employees involved in design, acquisition, installation, modification, alteration, maintenance, and service work on machines, equipment, and systems. FAA contractors and subcontractors must comply with the requirements of this chapter.

### 1002 POLICY.

**a.** The 29 CFR 1960 and Section 19 of the Occupational Safety and Health Act (OSHA) of 1970 prescribes requirements for federal employment occupational safety and health programs and contains provisions to assure safe and healthful working conditions for federal employees. Under Section 19 of OSHA and 29 CFR 1960.16, federal agencies' Occupational Safety and Health (OSH) programs must be consistent and in compliance with the standards promulgated under Section 6 of the Act of 1970. Section 6 of OSHA has been directed by rule by the Secretary of Labor to promulgate the 29 CFR 1910.

**b.** Federal employees should comply with the requirements of 29 CFR 1910 Subpart D, Walking-Working Surfaces, unless there are other alternate promulgated standards that are more specific to an activity, organization, or industry, such as 29 CFR 1926 Subpart M for construction activities.

**c.** Fall protection must be provided for each employee on any elevated surface with an exposed edge or floor opening 4 feet or more above adjacent floor or ground level. Exceptions:

(1) When climbing fixed ladders below 20 feet, or

(2) When climbing portable ladders, or

(3) When erecting or dismantling supported scaffolds when it is determined by a Competent Person that providing fall protection is not feasible, or creates a greater hazard or

(4) When performing construction activities as defined by 29 CFR 1910.12(b), where 29 CFR Subpart M would apply.

### 1003 DEFINITIONS.

**a. Authorized Climber** An individual who, by virtue of physical capabilities, training, work experience, and job assignments, climbs standard structures that are equipped with appropriate fall protection to perform routine tasks. This individual is capable of using pre-designed fall restraint systems on elevated work surfaces.

**b. Expert Climber.** An individual who, by virtue of physical capabilities, training, work experience, and job assignments, climbs structures that are not equipped with climbing safety devices; performs work at elevated sites; performs off-ladder work, which may require work positioning; sets up and uses fall restraint and fall arrest systems. This person is also considered an Authorized Climber.

**c. Competent Person.** An individual who, by virtue of physical capabilities, training, work experience, and job assignments provides fall protection program or project oversight and the selection of fall protection equipment, personal protection equipment (PPE) and/or climbing systems. This includes identifying hazardous conditions in personal fall arrest systems or any component thereof as well as in their application and use with related equipment. This person must be an Expert Climber. If this person is required to select rescue equipment, he or she must also be an authorized rescuer.

**d. Qualified Person.** An individual with a recognized degree and extensive knowledge and experience in the subject field, who is capable of design, analysis, evaluation, and specifications in fall protection systems (e.g., structural engineers, designers). This person must be an Expert Climber.

**e. Authorized Rescuer.** An individual who, by virtue of physical capabilities, training, and job assignments performs rescue at heights. This person must be an Expert Climber.

**f. Ladder safety system.** An assembly of components whose function is to arrest the fall of a user, including the carrier and its associated attachment elements (brackets, fasteners, etc.), safety sleeve, body support and connectors, wherein the carrier is permanently attached to the climbing face of the ladder or immediately adjacent to the structure.

**g. Personal fall arrest system.** A system used to arrest an employee in a fall from a working level. It consists of an anchorage, connectors, a body harness, and may include a lanyard, deceleration device, lifeline, or suitable combinations of these.

**h. Fall restraint.** A device or devices including necessary components that prevents (or prevent) a person's center of gravity from reaching a fall hazard.

**1004 PROGRAM ELEMENTS.** All FAA lines of business, service areas, or staff offices that have employees exposed to fall hazards must develop a fall protection program that includes the following elements:

**a. Identification of Fall Hazards.** Surveys of facilities must be conducted and documented to identify fall hazards associated with all elevated work by a Competent Person who has received training and is qualified to identify and recognize such hazards.

**b. Hazard Evaluation and Control.**

(1) Existing and potential hazards of non-standard elevated work surfaces must be evaluated by a Competent Person. One of the following methods of resolution must be applied to each hazard:

(a) Work procedures developed and appropriate fall protection equipment supplied, if applicable.

(b) Modify the facility to mitigate the hazard.

(2) When exposure to a fall hazard cannot be prevented through engineering controls (e.g. platforms, guardrails) or use of elevated work surfaces, fall restraint or fall arrest equipment must be used. A Competent Person, and where required, a Qualified Person must evaluate modifications or installations of fall protection systems to elevated work surfaces to ensure the fall protection systems perform as intended.

(3) If a fall hazard is identified, and hazard mitigation is not possible in a timely manner, interim work procedures must be developed, or work at the elevated work surfaces must cease.

(4) All elevated work surfaces must be designed, constructed, and maintained to ensure that they support their maximum intended load. When surveys identify potential deficiencies with a structure or systems, a determination must be made by a structural engineer to ensure that the surface has the strength and structural integrity to support employees working on them.

**c. Personal Protective Equipment (PPE).**

(1) Selection of fall protection equipment must be approved by a Competent Person. All equipment must meet applicable OSHA and ANSI requirements and must be suitable for the work intended.

(2) Personal Fall Arrest System (PFAS). Personal fall arrest systems must meet applicable OSHA and ANSI requirements and must be selected by Competent Persons to match the particular work conditions and environment. Body belts are not acceptable as part of PFAS.

(3) Use. If an employee is found to be using their PPE incorrectly, or is found not to be using the appropriate PPE when required, that employee must attend refresher training.

**d. Maintenance and Inspection.**

(1) All equipment and systems must be inspected and maintained in accordance with manufacturer's specifications and OSHA and ANSI requirements.

(2) Any PFAS with signs of damage, impact loading, or significant component defect must be withdrawn from service immediately and evaluated for serviceability by a Competent Person or replaced.

(3) Formal maintenance and inspection activities must be conducted and documented.

(4) All equipment and systems must be inspected before each use.

**e. Training and Qualifications.**

(1) Employees must receive training to recognize the hazards associated with elevated work surfaces and fall hazards in their area of operation and the procedures to follow to minimize these. Training must be conducted by a Competent Person in accordance with OSHA regulations, ANSI requirements, and the manufacturer's instructions. The level of training must be consistent with an employee's job assignment. Figure 10-2, FAA Elevated Work Surface Job Categories, summarizes requirements for each level of climber.

(2) Refresher training must be conducted whenever an employee who has already been trained does not have the understanding or demonstrated skill required by this chapter (e.g., due to changes in the workplace or changes in the types of fall protection systems or equipment to be used) or when the training expires.

(3) All training must be properly documented in the agency's official training information system. Documentation must include a written certification record that contains the name or other identifier of the employee trained, the date(s) of the training, and the signature of the Competent Person who performed the training.

(4) Employees must be capable of performing assigned job duties.

**f. Emergency Rescue Procedures.** Emergency and rescue procedures, consistent with the nature of the operations and the conditions of the elevated space, must be established to rescue an employee should an emergency occur. Procedures must include methods for summoning rescue and emergency services, for rescuing employees from heights, and for providing necessary medical services in a timely fashion. All emergency rescue related fall protection equipment must be selected by a Competent Person that has received authorized rescuer training.

**g. Facilities, Systems, and Equipment Acquisitions.** Fall protection requirements must be incorporated as early as possible in all design, construction, renovation, maintenance, and other projects

and programs. New facilities must have fall protection meeting OSHA requirements built into the system (e.g., approved anchorage points are permanently identified prior to commissioning). A Qualified Person or a Competent Person and, as appropriate, planners and engineers must ensure designs and plans properly indicate location and type of fall protection systems to be installed and that approved anchorage points are permanently identified prior to commissioning.

**h. Contracts.**

(1) All contracts issued for work involving elevated surfaces must contain a provision that contractors must have a fall protection program in accordance with OSHA and state requirements. Safety programs must be submitted in accordance with contract requirements.

(2) Contractors must provide their own appropriate fall arrest equipment and training. FAA will not issue fall protection equipment to contractors.

**1004-1099. RESERVED.**

**Figure 10-1 CROSS REFERENCES TO OSHA & NATIONAL CONSENSUS STANDARDS**

Subject Area	OSHA Standard 29 CFR	National Consensus Standard
Ladders	1910.25 Portable Wood Ladders 1910.26 Portable Metal Ladders 1910.27 Fixed Ladders 1910.268 Telecommunications 1926.1051 General Requirements 1926.1053 Ladders 1926.1060 Training Requirements 1926 Subpart X Appendix A	ANSI A14.1, Safety Requirements for Portable Wood Ladders ANSI A14.2, Safety Requirements for Portable Metal Ladders ANSI A14.3, Safety Requirements for Fixed Ladders ANSI A14.4, Safety Requirements for Job-Made Ladders ANSI A14.5, Safety Requirements for Portable Reinforced Plastic Ladders ANSI A14.7-1991 Safety requirements for mobile ladder stands and mobile ladder stand platforms ANSI A14.10-2000 Safety requirements for portable special duty ladders
Step Bolts and Manhole Steps	1910.27 Fixed Ladders	ASTM C478, Specifications for Precast Reinforced Concrete Manhole Sections ASTM A394, Specifications for Quenched and Tempered Alloy Steel Bolts, Studs, and Other Externally Threaded Fasteners
Stairs	1910.24 Fixed Industrial Stairs 1926.1051 General Requirements 1926.1052 Stairways	ANSI A10.18- 2001 Safety requirements for temporary floor holes, wall openings, stairways and other unprotected edges ANSI A64.1, Requirements for Fixed Industrial Stairs ANSI A1264.1-1995 Safety requirements for workplace floor and wall openings, stairs and stair railings.
Ramps and Bridging Devices	1910.30 Other Working Surfaces 1910.37 Means of Egress, General	ANSI MH14.1, Industrial Loading Dock Levelers and Dockboards
Work Surfaces	1910.23 Guarding Floor and Wall Openings and Holes 1910.22 General Requirements 1026.501 Duty to have fall protection	ANSI A10.18- 2001 Safety requirements for temporary floor holes, wall openings, stairways and other unprotected edges ANSI A12.1, Safety Requirements for Floor and Wall Openings, Railings, and Toeboards ANSI A58.1, Minimum Design Loads for Buildings and Other Structures ANSI A1264.1-1995, Safety requirements for workplace floor and wall openings, stairs and stair railings.

Subject Area	OSHA Standard 29 CFR	National Consensus Standard
Scaffolds	1910.29 Manually Propelled Mobile Ladder Stands and Scaffolds (towers) 1910.28 Safety Requirements for Scaffolds 1926.451 General Requirements 1926.452 Additional Requirements 1926.454 Training Requirements 1926 Subpart L Appendix A-E	ANSI A92.1, Manually Propelled Mobile Ladder Stands ANSI A10.8, Safety Requirements for Scaffolds
Mobile Elevating Work Platforms, Mobile Ladder Stands, and Powered Industrial Truck Platforms	1910.66 Powered Platforms for Building Maintenance 1910.67 Vehicle-Mounted Elevating and Rotating Work Platforms 1926.453 Aerial Lifts	ANSI 10.28-1998 Work platforms suspended from cranes and derricks ANSI A92.3, Manually Propelled Elevating Work Platforms ANSI A92.1, Manually Propelled Mobile Ladder Stands ASME B30.23-1998 Personnel lifting systems
Fall Protection Systems	<u>1926 Subpart M, Parts:</u> 1926.500 Scope, Application, and Definitions 1926.501 Duty To Have Fall Protection 1926.502 Fall Protection Systems Criteria and Practices 1926.503 Training  1926.105 Safety Nets  1926.106 Working Over or Near Water  <u>1910 Standards:</u> 1910.23 Guarding Floor and Wall Openings and Holes 1910.24 Fixed Industrial Stairs 1910.27 Fixed Ladders 1910.28 Safety Requirements for Scaffolding 1910.67 Vehicle-Mounted Elevating and Rotating Work Platforms 1910.268 Telecommunications	ANSI A10.11, Construction and Demolition Operations - Personnel and Debris Nets  ANSI A10.32, Fall Protection Systems for Construction and Demolition Operations  ANSI A12.1, Safety Requirements for Floor and Wall Openings, Railings, and Toeboards  ANSI A39.1, Safety Requirements for Window Cleaning  ANSI Z359.1, Safety Requirements for Personal Fall Arrest Systems, Subsystems, and Components  ANSI Z490.1-2001, Accepted Practices for Safety, Health, and Environmental Training

**Figure 10-2. FAA ELEVATED WORK SURFACE JOB CATEGORIES**

*How to use this table:* Read down the duties column and then select the category furthest down the table in which the employee has one or more duties. That is the minimum level of job category to which the employee must be trained.

CATEGORY	DUTIES	PREREQUISITES
<p><u>Authorized Climber:</u> Is a person who performs any of the duties specified for this category and has successfully completed the Authorized Climber training.</p>	<p>Climbs standard structures. Routine tasks performed. Uses fall restraint. Climber must only climb structures that are equipped with appropriate fall protection systems.</p>	<p>Physically capable.</p>
<p><u>Expert Climber:</u> Is a person who performs any of the duties specified for this category. Then, after meeting the prerequisites identified, has successfully completed Expert Climber training.  Note: He/she may also be assigned duties specified for the Authorized Climber.</p>	<p>Maintenance and construction work performed. Climbs non-standard structures. Uses work positioning. Sets up and uses fall restraint systems. Climber may climb structures that are not equipped with appropriate fall protection systems.</p>	<p>Physically capable.  Has successfully completed Authorized Climber training or incorporates all aspects of Authorized Climber training into the Expert Climber training.</p>
<p><u>Competent Person:</u> Is a person who performs any of the duties specified for this category. Then, after meeting the prerequisites identified, has successfully completed Competent Person training.</p>	<p>Provides program oversight, if job duties require. Selects equipment and systems, if job duties require. Inspects fall protection equipment and systems, if job duties require.</p>	<p>Physically capable.  Has successfully completed Expert Climber training.</p>
<p><u>Qualified Person:</u> Is a person who performs any of the duties specified for this category. Then, after meeting the prerequisites identified, has successfully completed Qualified Person training.</p>	<p>May have program oversight, if FAA employee. Develops specifications related to work on elevated surfaces and the associated fall protection systems.</p>	<p>Physically capable.  Has successfully completed Expert Climber training. Degreed (i.e., structural or equivalent engineering degree). Extensive knowledge. Capable of design, analysis, and evaluation of fall protection systems.</p>
<p><u>Authorized Rescuer:</u> Is a person who performs any of the duties specified for this category. Then, after meeting the prerequisites identified, has successfully completed Rescue training.</p>	<p>Performs rescue at heights.</p>	<p>Physically capable.  Has successfully completed Expert Climber training and has climbing experience.  First aid/CPR.</p>