



5.0 FALL PROTECTION

1. SCOPE AND APPLICATION

This program is intended to inform all personnel working in elevated positions of the techniques necessary to perform their work safely. This program is applicable to all employees and contractors of SBA Telecommunications, Inc. (Collectively, "SBA") who work on elevated surfaces that have an unprotected side or leading edge that is 6 feet or more above a lower level. Additional Fall Protection procedures include:

- Tower Rescue
- Controlled Descent
- Elevated Tower Work
- Roof top Work

2. DEFINITIONS

100 Percent Fall Protection - protecting the worker from the possibility of a fall at all times. This includes when moving or stationary. One hundred percent (100%) fall protection includes guardrail systems, nets, tie off, catch platforms, etc.

Anchorage - a secure point of attachment for lifelines, lanyards, or deceleration devices. The anchorage shall be capable of withstanding the forces specified in this program.

Basket Hitch - a technical rigging term referring to a lift sling, which is only looped under (and not wrapped around) the load.

Full Body Harness - a configuration of connected straps to distribute a fall arresting force over at least the thighs, shoulders, and pelvis, with provisions for attaching a lanyard, lifeline, or deceleration device.

Fall Arrest System - a full body harness and lanyard, which is attached to a horizontal or vertical lifeline, which is properly secured to an anchorage(s).

Drop Line - an independent lifeline secured to an upper anchorage for the purpose of attaching a lanyard or a fall protection device. This line must be at least a ¾-inch manila rope or a ½-inch nylon rope.

Hardware - snap hooks, D-rings, buckles, carabineers, adjusters, and O-rings that are used to attach the components of a fall protection system together.

Horizontal Lifeline - a rail, wire rope, or synthetic rope that is installed in a horizontal plane between two anchorage points and used for attachment of a worker's lanyard or lifeline device while moving horizontally.

Lifeline - a vertical line from a fixed anchorage or between two horizontal anchorage points, independent of walking or working surfaces, to which a lanyard or device is secured.

Locking Snap Hook - a connecting snap hook that requires two separate forces to open the gate, one to deactivate the gatekeeper and a second to depress and open the gate which automatically closes when released; used to minimize roll-out or accidental disengagement.

Rope Grab - a fall arresting device that is designed to move up or down a lifeline suspended from a fixed overhead or horizontal anchorage point, or lifeline, to which the harness is attached. In the event



of a fall, the rope grab locks onto the lifeline rope through compression to arrest the fall. The use of a rope grab device is restricted for fall restraint applications.

Self-Retracting Lifeline - a deceleration device that contains a drum-wound line, which may be slowly extracted from, or retracted onto, the drum under slight tension during normal employee movement, and which after onset of a fall, automatically locks the drum and arrests the fall.

Shock-Absorbing Lanyard - a flexible line of webbing, cable, or rope used to secure a body harness to a lifeline or anchorage point that has an integral shock absorber.

3. RESPONSIBILITIES

Program responsibilities are defined below for the individuals designated to ensure the proper implementation of this program.

3.1. Regional Health and Safety Manager:

Ensure all management and affected employees are aware of the Fall Protection Program and enforce the same.

Provide all materials and hardware for effective implementation of this program and ensure they are properly utilized and maintained.

Identify jobs requiring the use of fall protection.

Periodically review worksites for compliance with this program.

3.2. Supervisors and Crew Leaders:

Be knowledgeable of Fall Protection Program requirements.

Evaluate fall hazards during the Pre-Work Assessment Survey.

Make routine surveys of work areas to ensure proper use, condition, and maintenance of fall protection equipment.

Ensure all affected employees participate in review of project specific fall hazards and attend scheduled annual fall protection training.

3.3. Employees:

Actively participate in the assigned fall protection orientation and annual training sessions and adhere to the safe operating guidelines contained within this program.

Inspect fall arrest devices and equipment prior to use.

Report any defects in fall arrest devices noted during daily inspections to their supervisor.

Store fall arrest devices in the appropriate manner following use.

4. GENERAL REQUIREMENTS

The use of 100% fall prevention measures shall be utilized when personnel are exposed to fall hazards or working within 6 feet of an unprotected fall in excess of six feet. Any individual climbing above 6' from a lower level, shall maintain contact with the structure at all times while ascending, moving point to point, performing work and descending from a tower structure. To ensure that these requirements are met, SBA requires that all personnel utilize a personal fall arrest system. **Free climbing is strictly prohibited.** Only employees or subcontractors that meet the training requirements (Section 12) of this policy will be permitted to climb tower structures and perform work on rooftops. Two employees must be on-site when an employee performs elevated work.



5. PRE-CLIMB REQUIREMENTS

- **Prior to climbing** the structure, the Supervisor shall ensure that the employee(s) have tested the safety climb device. The employer shall utilize the following procedures to prepare elevated work and test the safety climb device. Prior to beginning work:

5.1. Pre-Work Assessment Survey

Complete the Pre-Work Assessment Survey and communicate to all employees the associated fall hazards for the task at hand. The Supervisor shall review the fall hazards at the pre-work meeting and determine if a safe route is available to climbers. The review shall include any/all equipment that would pose a problem to the climbers, such as transmitters, transmitter platforms, extension arms, lights, and any energy sources.

- **Physical Obstructions:** If the review indicates that the route has some physical obstructions then alternate routes shall be investigated. If the alternate routes cannot be used then prior to the climb the supervisor and climber shall review the obstruction and plan a route around the obstruction, so long as 100% tie off is maintained throughout the climb.
- **Energy Source Obstructions:** If the review indicates that the obstruction is an energy source such as but not limited to, electrical, radio frequency, or microwave energy source then the employer, in conjunction with the tower owner and other tenants on the tower shall initiate a Lock Out of the energy source meeting the requirements of the SBA RF Program.
 - **System Check:**
Once the tower energy has been locked out, and all other requirements have been met, the climb, and associated work may begin. Once work is completed, systems can be checked provided that the Supervisor insures that employees still on the tower are in a safe position away from energy sources while the tests are performed.
- **Informing Employees:** Employees on the tower shall be informed by radio or visual signal of when tests are being performed on the energy sources associated with the tower.
- **Inspect** all personal protective equipment prior to climbing and complete the Harness Safety Checklist (Document - SAF76900), then before tower access the supervisor shall personally inspect each tower climbers PPE to assure proper inspection;
- When you are ready to begin ascending the structure, approach the ladder at the base and connect to the functional safety climb device. Check for proper operation, climb a few feet and forcibly engage the device without letting go of the ladder. If the device functions as intended, begin your ascension;

6. CLIMBING REQUIREMENTS

- Upon ascent of the structure, remember to follow the proper climbing technique. Always use the three point system. That is two feet and one hand or two hands and one foot must be in contact with the functional safety device, pegs, or structure at all times for ascent, descent and transition;
- Break your climbing runs (lengths without stopping) to a comfortable distance. Remember to use your legs to do the work and not your arms and shoulders. Do not reach a point of exhaustion before stopping to rest;



- Do not disconnect from the functional safety device without first connecting to an appropriate anchor point using another personal fall arrest system;
- To transition to other parts of the structure, use appropriate attaching devices – first connecting the next attaching device before disconnecting the first maintaining 100% fall protection.

7. FIXED SAFETY CLIMB DEVICES

- The ladder safety device shall allow at least two persons, but not more than four, averaging 250 pounds each (including equipment), to ascend or descend simultaneously; however, only one person at a time (except in rescue operations) shall use the same portion of carrier between intermediate mountings for rigid carriers or cable guides for flexible carriers;
- They shall permit the employee using the device to ascend or descend without continually having to hold, push, or pull any part of the device, leaving both hands free for climbing;
- The connection between the carrier or lifeline and the point of attachment to the body harness shall not exceed 9 inches (23 cm) in length. This is not to be used with positioning D-rings.
- **Step bolts may not be used as anchor points unless a specialty anchorage point has been installed in accordance with the manufacturer's specifications.**

8. PERSONAL FALL ARREST SYSTEMS

Personal fall arrest systems shall comply with the following:

- Personal fall arrest systems shall consist of a full-body harness and a dual leg, six-foot, shock-absorbing lanyard;
- All connectors shall be drop forged, pressed or formed steel, or made of equivalent materials;
- D-rings and snap hooks shall have a minimum tensile strength of 5,000 pounds and a minimum tensile load of 3,600 pounds;
- Lanyards and vertical lifelines shall have a minimum breaking strength of 5,000 pounds;
- All ropes and straps used in lanyards, lifelines, and body harnesses shall be made of synthetic fibers;
- All anchorage points for personal fall arrest systems shall be capable of supporting 5,000 pounds per employee attached;
- The attachment point of the body harness shall be in the center of the wearer's back, near shoulder level;
- Components subjected to impact loading shall be removed from service until inspected by a competent person;
- Full body harness systems shall be inspected prior to each use for mildew, wear, damage, and other deterioration, and effective components removed from service if their function or strength has been adversely affected.

9. POSITIONING DEVICE SYSTEMS

All positioning device systems and their use shall meet the following criteria:

- Positioning devices shall be rigged such that a worker cannot fall more than 24 inches;
- Positioning device anchorage points shall be capable of supporting an impact load of at least 3,000 pounds;
- All connectors shall be drop forged, pressed or formed steel, or equivalent materials, and shall have a minimum tensile strength of 5,000 pounds;
- D-rings and snap hooks shall be proof-tested to a minimum tensile strength of 3,600 pounds;
- Only locking type snap hooks shall be used;
- Positioning devices systems shall be inspected prior to use and defective components shall be removed from service.



10. VERTICAL AND HORIZONTAL LIFELINES

All vertical and horizontal lifelines and their use shall meet the following criteria:

- All safety lines and lanyards shall be protected against being cut or abraded;
- Hardware shall have a corrosion-resistant finish, and all surfaces and edges shall be smooth to prevent damage to the attached body harness or lanyard;
- When vertical lifelines (drop lines) are used, not more than one employee shall be attached to any one lifeline. Lines used with rope grabs must be a minimum of 5/8" diameter (SBA only purchases rope grabs in 5/8" size);
- Full body harness systems shall be secured to anchorage points capable of supporting 5,000 pounds per employee.
- Independent lifelines (drop lines) shall have a minimum tensile strength of 5,000 pounds;
- Self-retracting lifelines and lanyards which automatically limit free fall distance to 2 feet or less shall have a minimum tensile strength of 3,000 pounds and be attached to the back D-ring;
- Horizontal lifelines shall have a tensile strength capable of supporting a fall impact load of at least 5,000 pounds per employee using the lifeline, applied anywhere along the lifeline. When more than one employee is using a horizontal life line, the life line shall be capable of supporting 5000 pounds per employee or an engineered safety factor of two (2) shall be maintained, based on a worst case scenario;
- Anchorage points shall be independent of any other system and shall be capable of supporting 5,000 pounds per employee using the anchorage;
- Snap hooks shall be double locking type snap hooks and shall not be connected to each other.

11. LADDERS

The following general precautions are to be followed for safe use of ladders:

- Ladders must be inspected for defects prior to use. Defective ladders shall be tagged "DO NOT USE" and removed from the task site;
- All portable ladders utilized to gain access to an elevated work surface must be secured to prevent displacement, and extend at least 36 inches above the surface to be accessed;
- Ladders must be placed on stable and level surfaces;
- When using a ladder against a wall, the base of the ladder must be placed at a distance 1/4 of the height of the ladder;
- Stepladders may only be used with the spreaders in the open and locked position;
- Workers must face the ladder and keep at least one hand on the ladder whenever ascending or descending. Materials cannot be hand-carried on a ladder if they require the full-time use of one hand. Maintain 3 pt. contact at all times on any ladder.

12. PERSONNEL LIFTING

Riding the line and use of man baskets for hoisting personnel shall only be allowed with prior approval of the SBA Health and Safety Department. All equipment used for the hoisting of personnel to the work area of the tower shall comply with OSHA Directive CPL 2-1.36, ANSI – B30.7, 29 and CFR 1926.550 and Subpart M (Fall Protection Standard).

13. TRAINING AND INFORMATION

Before performing elevated tasks employees must successfully complete SBA's Tower Safety and Rescue or complete a tower climber course from one of the following organizations:



- ComTrain
- DBI/Sala
- Gravitec
- MSA
- Safety Connection
- Miller/Troll
- Tractel

Climber personnel who have received training from the organizations above must complete SBA Tower Safety Introduction Program that includes a post-test and Tower Safety Checklist. Also these climbers must attend the next scheduled SBA Tower Safety and Rescue Training Program in their respective region.

14. PROGRAM REVIEW AND REVISION

The Regional Health and Safety Manager shall perform an annual assessment of this program. The assessment will address the degree and consistency of program element implementation in the workplace.

15. DISCIPLINARY POLICY

All employees are expected to adhere to the procedures given in this written program. Failure to comply will result in disciplinary action as described in SBA's disciplinary action policies.

16. RECORDKEEPING

The Safety Department shall maintain all employee-training records will be maintained for at least two years from the last training date.