



SECTION 1. INTRODUCTION

This manual provides information for Fall Protection, Rope Access, and Rescue work procedures, methods used when engaged in climbing lattice structures and poles anytime working at heights in excess of 4 feet. Equipment safety and inspection criteria will also be discussed.

I.1 MANUAL ORGANIZATION

- Sections 1 contains general information and definition of terms.
- Sections 2 contain safety information.
- Section 3 covers procedures specific to certain types of operations.
- Section 4 provides methods of rescue, first aid procedures and suspension trauma.
- Section 5 covers rope access procedures.
- Appendix 1 contains manufacturer instructions and operating instructions.
- Appendix 2 shows illustrations supporting appropriate procedures.
- Appendix 3 contains forms.

I.A SPECIAL COMMENTS OR INSTRUCTIONS

1. A **“WARNING”** (as shown below in Figure 1.2.1), refers to operating procedures, techniques, etc., that, if not followed carefully, could result in **LOSS OF LIFE OR PERSONAL INJURY**. A **WARNING** appears after the text to which it refers.



Figure 1.A.1. Warning icon.

2. A **“CAUTION”** (as shown below in Figure 1.2.2), refers to operating procedures, techniques, etc., that, if not followed, could result in **DAMAGE TO EQUIPMENT** or a **LOSS OF SERVICE** to customers. A **CAUTION**, appears after the text to which it refers.



Figure 1.A.2. Caution icon.

Both a WARNING and CAUTION appear on the same page as the text to which they refer if possible.

3. A **“NOTE”** is inserted below a procedure or statement to provide **ADDITIONAL INFORMATION**.
4. An **“EXCEPTION”** is inserted below a procedure or statement to provide an **ALTERNATIVE** to the given instruction.

I.2 DEFINITION OF TERMS

Aerial device: Any piece of equipment using a bucket or platform to place the climber(s) at an elevated worksite.

Anchor Strap: An Anchor Strap wraps around steel members and other structures and attaches with a D-ring that slips through a larger D-ring to form a secure attachment point for lanyards and other connecting devices

Anchorage: The terminating component of a fall protection system or rescue system that is intended to support any forces applied to the system. An anchorage meeting the requirements of this standard can safely withstand the foreseeable forces that might be exerted on the fall protection or rescue system.

Anchorage Connector: A component or subsystem that functions as an interface between the anchorage and a fall protection, work positioning, rope access, or rescue system for the purpose of coupling the system to the anchorage.

Capacity: The combined weight of the user and all clothing, tools, and other objects borne or carried by the user is considered in determining whether the capacity has been exceeded.

Carabiner: A connector component generally comprised of a trapezoidal or oval shaped body with a normally closed gate or similar arrangement which may be opened to permit the body to receive an object and when released, automatically closes to retain the object. The triple action locking type carabineer is required by PG&E. It has a self-closing, self-locking gate that remains closed and locked until intentionally unlocked.

Competent person: An individual designated by the employer to be responsible for the immediate supervision, implementation, and monitoring of the employer's managed fall protection program who, through training and knowledge, is capable of identifying, evaluating, and addressing existing and potential fall hazards, and who has the employer's authority to take prompt corrective action with regard to such hazards.

D-Ring: An integral "D" shaped connector typically used in harnesses, lanyards, energy absorbers, lifelines, and anchorage connectors as an integral connector as an attachment point

Engineered anchorage: A fall protection anchorage which is designed and will operate to withstand the maximum expected impact load while maintaining a specified overload capacity factor (OCF) of two.



Section I: Introduction

Fall Arrest Device: A device that travels on a lifeline and will automatically engage or lock onto the lifeline in the event of a fall.

Fall Arrest system: The collection of equipment components that are configured to arrest a free fall. A fall arrest system is typically comprised of components such as full body harnesses, lanyards, deceleration devices, horizontal lifelines, vertical lifelines, anchorages and anchorage connectors. Configured and used properly, a free fall will be arrested without exceeding the strength requirements of this standard.

Fall protection system: Consists of either a fall restraint system or a fall arrest system. The system shall have three integral parts: an anchorage, an employee's body attachment device, and a means of connecting the body attachment device to the anchorage.

Fall restraint system: The technique of securing an authorized person to an anchorage using a lanyard short enough to prevent the person's center of gravity from reaching the fall hazard.

Free fall distance: The vertical distance traveled during a fall, measured from the onset of a fall from a walking working surface to the point at which the fall protection system begins to arrest the fall. This distance excludes deceleration distance and the elongation of a lifeline or lanyard, but includes any distance that a deceleration device slides before engaging or the distance that a self-retracting lifeline or lanyard extends before fall arrest forces are applied.

Hazard: That dangerous condition, potential or inherent, which can bring about an interruption or interference with the expected orderly progress of an activity.

Horizontal lifeline: A component of a horizontal lifeline subsystem, consisting of a flexible line with connectors or other coupling means at both ends for securing it horizontally between two anchorages or anchorage connectors.

Kilo Newton (kN): A metric unit of measurement where 1 kN = 224.8 lbs.

Lanyard: A component consisting of a flexible rope, wire rope, or strap, which typically has a connector at each end for connecting to the body support and to a fall arrester, energy absorber, anchorage connector, or anchorage.

Lifeline: A component of a fall protection system consisting of a flexible line designed to hang either vertically (vertical lifeline), or for connection to anchorages or anchorage connectors at both ends to span horizontally (horizontal lifeline).



Positioning strap: A lanyard used to transfer forces from a body support to an anchorage or anchorage connector in a positioning system. The lanyard can be connected to the D-rings on the harness to allow the worker to have both hands free for work.

Self-retracting lanyard (SRL): A device containing a drumwound line that automatically locks at the onset of a fall to arrest the user, but that automatically pays out from and retracts onto the drum during normal movement of the person to whom the line is attached. After onset of a fall, the device automatically locks the drum and arrests the fall. The device may have integral means for energy absorption.

Shock (Energy) Absorber: A component whose primary function is to dissipate energy and limit deceleration forces on the body during fall arrest. Such devices may employ various principles such as deformation, friction, tearing of materials or breaking of stitches to accomplish energy absorption. A shock absorber causes an increase in the deceleration distance. Shock absorbing lanyards shall only be used for fall arrest and shall not be used as a positioning or climbing device.

Snap hook: A connector comprised of a hook-shaped body with a normally closed gate or similar arrangement that may be opened to permit the hook to receive an object and, when released, automatically closes to retain the object.

Swing Fall: A pendulum like motion that occurs during or after a vertical fall. A swing fall results when a person begins a fall from a position that is located horizontally away from a fixed anchorage.

Total fall distance: The total vertical distance a person falls, measured from the onset of a fall to the point where the person comes to rest after the fall is stopped. Sliding of the anchorage connector is factored into the total fall distance.

Transitioning: The act of moving from one location to another on a structure.

Vertical lifeline: A component, element or constituent of a lifeline subsystem consisting of a vertically suspended flexible line and along which a fall arrester travels.



Section I: Introduction