

# Great Western Painting

## Policy Statement

### Compliance with 29 CFR 1926.502(d)(20)

29 CFR 1926.502(d)(20) states: “The employer shall provide for prompt rescue of employees in the event of a fall or shall assure that employees are able to rescue themselves.”

Per OSHA interpretation letters [J. Nigel Ellis (May 11, 1999) & Charles Hill (August 14, 2000)], the hazard being addressed by 29 CFR 1926.502(d)(20) is being suspended by the fall arrest system after an arrested fall.

Prompt rescue is not defined, but it does imply that rescue be performed quickly – in time to prevent serious injury to the suspended worker.

**As a matter of policy, under no circumstances will our employees attempt to perform a self-rescue.**

The rationale for this policy is as follows:

1. Expecting a suspended employee to perform self-rescue presupposes that the employee is:
  - a. of clear mind after the fall, and,
  - b. in excellent physical condition, and
  - c. has not sustained any injuries from the fall arrest, and
  - d. did not have a medical event that caused the fall in the first place (fainting, for example).
2. Because our employees are not professional rescue persons, in depth self-rescue training would be required and practice self-rescue exercises performed for each possible combination of fall scenarios.
3. Specialize self-rescue equipment and training on that equipment would be required.
4. Self-rescue is not required by 29 CFR 1926.502(d)(20).

**As a matter of policy, we will provide for prompt rescue of employees in the event of a fall.**

Prompt Rescue Procedures:

As a matter of policy, an employee performing work requiring a personal fall arrest system **will not work alone**. He/she will be in sight of another employee using a personal fall arrest system or be monitored by a safety monitor whose sole job will be to ensure there is not a fall event that goes unnoticed.

Prior to performing work requiring a personal fall arrest system, the Safety Program Administrator, or designated competent person, will:

1. assess the possible fall scenarios, and,
2. take inventory of in-house equipment that is readily available for possible rescue (ladders, forklifts, mobile scaffold, etc.), and,
3. be prepared to implement a plan of action utilizing our in-house equipment should a fall occur, **or**
4. call an emergency rescue service and give them:
  - a. our exact location.
  - b. a quick synopsis of what happened.
  - c. the height of the suspended person.
  - d. known or suspected injuries.

---

Patrick Evje  
Safety Director

# **Great Western Painting**

## **Barricading Policy**

Waste, materials, or tools shall not be thrown from buildings or structures to areas where employee(s) may be located, unless the area where the material falls is guarded by fences, barricades, or other methods/means to prevent employee(s) from entering and being struck by falling objects. Signs shall be posted to warn employees of the hazard.

---

Robert Evans  
Fall Protection Program Administrator

# Great Western Painting

## Cal/OSHA Fall Protection

§1510. Safety Instructions for Employees.

§1513. Housekeeping.

§1670. Personal Fall Arrest Systems, Personal Fall Restraint Systems and Positioning Devices.

§1671. Safety Nets.

§1671.1. Fall Protection Plan.

§1671.2. Controlled Access Zones and Safety Monitoring Systems.

§3209. Standard Guardrails.

### OVERVIEW

One of the most serious hazards faced by our employees is falls from heights. Our Fall Protection Program has been developed to prevent injury from falls from a walking/working surface to a lower level, to prevent objects falling from above and striking persons below, and to prevent job site persons from falling into holes. Different types of work activities require different levels of fall protection. If an employee is not sure of proper fall protection to utilize in a specific work situation, he/she must ask a supervisor or competent person for the proper fall protection requirements before performing work.

Within the context of this program, the term “fall hazard” does not refer to falling off a ladder or scaffold. Scaffold and ladder safety is addressed within its own program.

A copy of our Fall Protection **Program** as well as our Fall Protection **Plan**, if **applicable**, will be found on every applicable job site.

On all job sites where fall hazards exist, there will be at least one competent person who has the training and ability to identify fall hazards and the authority to ensure that proper fall protection systems are properly implemented.

The following areas of concern are addressed by this Program:

- a. the need to know where fall protection is required.
- b. selection of fall protection systems which are appropriate for given situations.
- c. construction and installation of safety systems.
- d. supervision of employees.
- e. implementation of safe work procedures.
- f. training in selection, use, and maintenance of fall protection systems.

Our Fall Protection Program may be reviewed at any time by our employees.

## **DUTIES OF THE PROGRAM ADMINISTRATOR**

The Fall Protection Program Administrator's duties include:

- a. training of personnel.
- b. maintenance of training records.
- c. random, unannounced job site inspections to assure compliance with both OSHA standards and company safety policies.
- d. resolution of specific problems that may present themselves regarding a particular job site situation.
- e. designating a competent (by training or experience) person at each applicable job site who will ensure:
  1. a copy of our fall protection program/plan is readily accessible on appropriate job sites.
  2. a written certification record has been prepared documenting that employees who have potential exposure to fall hazards at the job site have received the required training in protection.
  3. the fall protection system(s) utilized at the job site are appropriate for the hazard(s) present.
  4. that, before any work is initiated, the walking/working surfaces at the job site are capable of supporting both our personnel and equipment.

The Fall Protection Program Administrator will be familiar with all applicable standards and will keep abreast of developments in the field of fall protection.

### **PRE-PROJECT PLANNING**

Fall protection requires a joint effort by our personnel to identify work situations in which fall hazards exist, determine the most appropriate fall protection system to be utilized, and to ensure that all persons understand the proper methods of utilizing the selected fall protection systems. A pre-construction survey by a competent person will often provide the information needed to make these determinations.

Fall protection system requirements may change during a project and the competent person on site will ensure that fall protection is maintained at all times. Care will be taken to assure that load limits are not exceeded on walking/working surfaces and attachment points and hardware is capable of withstanding (with the appropriate safety factor) the potential forces that may be generated during an actual fall incident.

All safety belts, harnesses and lanyards placed in service or purchased on or before February 1, 1997, shall be labeled as meeting the requirements contained in ANSI A10.14-1975, Requirements for Safety Belts, Harnesses, Lanyards, Lifelines and Drop Lines for Construction and Industrial Use.

Additionally, all fall arresting, descent control, and rescue equipment shall be approved and used in accordance with the manufacturer's recommendations.

Lifelines and anchorages shall be capable of supporting a minimum dead weight of 5000 pounds.

All personal fall arrest, personal fall restraint and positioning device systems purchased or placed in service after February 1, 1997, shall be labeled as meeting the requirements contained in ANSI A10.14-1991 American National Standard for Construction and Demolition Use, or ANSI Z359.1-1992 American National Standard Safety Requirements for Personal Fall Arrest Systems, Subsystems and Components.

## DEFINITIONS

There are a number of terms and phrases, not common in everyday life, which must be understood to grasp the thrust of this Program. For those employees directly involved with this Program or affected by it, there are specific requirements and procedures which would be meaningless without an understanding of the "language" of our Fall Protection Program. Words used within the definitions which are themselves defined are printed in bold italic.

**ANCHORAGE:** a secure point of attachment for *lifelines, lanyards* or *deceleration devices*.

**BODY HARNESS:** straps which may be secured about the employee in a manner that will distribute the fall arrest over at least the thighs, pelvis, waist, chest, and shoulders with means for attaching it to other components of a *personal fall arrest system*.

**BUCKLE:** any device for holding the *body harness* closed around the employee's body.

**CARABINER:** an oval metal ring with a snap link used to fasten a rope to the piton [a spike (attachment) with an eye to which a rope can be secured.]

**COMPETENT PERSON:** 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.

**CONNECTOR:** a device which is used to couple (connect) parts of the *personal fall arrest system* and *positioning device systems* together. It may be an independent component of the system, such as a *carabiner*, or it may be an integral component of part of the system (such as a *buckle* or dee-ring sewn into a self-retracting *lanyard*).

**CONTROLLED ACCESS ZONE (CAZ):** an area in which certain work (i.e., *leading edge work*) may take place without the use of *guardrail*

**systems, personal fall arrest systems**, or safety net systems; access to the zone is controlled.

- a. the controlled access zone shall be defined by a control line or by any other means that restricts access. Signs shall be posted to warn unauthorized employees to stay out of the controlled access zone.
- b. When control lines are used, they shall be erected not less than 6 feet nor more than 25 feet from the unprotected or leading edge, except when erecting precast concrete members.
- c. When erecting precast concrete members, the control line shall be erected not less than 6 feet nor more than 60 feet or half the length of the member being erected, whichever is less, from the leading edge.
- d. The control line shall extend along the entire length of the unprotected or leading edge and shall be approximately parallel to the unprotected or leading edge.
- e. The control line shall be connected on each side to a standard railing or wall, or securely anchored on each end.
- f. Control lines shall consist of ropes, wires, tapes, or equivalent materials, and supporting stanchions as follows:
  1. Each line shall be flagged or otherwise clearly marked at not more than 6-foot intervals with high-visibility material.
  2. Each line shall be rigged and supported in such a way that its lowest point (including sag) is not less than 39 inches from the working level/working area and its highest point is not more than 45 inches.
  3. Each line shall have a minimum breaking strength of 200 pounds.

**DANGEROUS EQUIPMENT:** equipment (such as pickling or galvanizing tanks, degreasing units, machinery, electrical equipment, and other units) which, as a result of form or function, may be hazardous to employees who fall onto or into such equipment.

**DECELERATION DEVICE:** any mechanism, such as a **rope grab**, rip-stitch **lanyard**, specially-woven **lanyard**, tearing or deforming **lanyards**, automatic self-retracting **lifelines/lanyards**, etc., which serves to dissipate a substantial amount of energy during a fall arrest, or otherwise limit the energy imposed on an employee during fall arrest.

**DECELERATION DISTANCE:** the additional vertical distance a falling employee travels from the point at which the **deceleration device** begins to operate before stopping, excluding **lifeline** elongation and **free fall distance**. It is measured as the distance between the location of an employee's **body harness** attachment point at the moment of activation (at the onset of fall arrest forces) of the **deceleration device** during a fall, and the location of that

attachment point after the employee comes to a full stop.

**EQUIVALENT:** alternative designs, materials, or methods to protect against a hazard which the employer can demonstrate will provide an equal or greater degree of safety for employees than the methods, materials or designs specified in the standard.

**FAILURE:** load refusal, breakage, or separation of component parts. Load refusal is the point where the ultimate strength is exceeded.

**FREE FALL:** the act of falling before a **personal fall arrest system** begins to apply force to arrest the fall.

**FREE FALL DISTANCE:** the vertical displacement of the fall arrest attachment point on the employee's **body harness** between onset of the fall and just before the system begins to apply force to arrest the fall. This distance excludes **deceleration distance**, and **lifeline/lanyard** elongation, but includes any **deceleration device** slide distance of **self-retracting lifeline/lanyard** extension before they operate and fall arrest forces occur. Free fall distance must not exceed 6 feet.

**GUARDRAIL SYSTEM:** a barrier erected to prevent employees from falling to **lower levels**.

**HOLE:** a gap or void 2 inches (5.1 cm) or more in its least dimension, in a floor, **roof**, or other **walking/working surface**.

**INFEASIBLE:** it is impossible to perform the construction work using a conventional fall protection system (i.e., **guardrail system**, safety net system, or **personal fall arrest system**) or that it is technologically impossible to use any one of these systems to provide fall protection.

**LANYARD:** a flexible line of rope, wire rope, or strap which generally has a **connector** at each end for connecting the **body harness** to a **deceleration device**, **lifeline**, or **anchorage**.

**LEADING EDGE:** the edge of a floor, **roof**, or formwork for a floor or other **walking/working surface** (such as the deck) which changes location as additional floor, **roof**, decking, or formwork sections are placed, formed, or constructed. A leading edge is considered to be an "unprotected side and edge" during periods when it is not actively and continuously under construction.

**LIFELINE:** a component consisting of a flexible line for connection to an **anchorage** at one end to hang vertically (vertical lifeline), or for connection to **anchorages** at both ends to stretch horizontally (horizontal lifeline), and which serves as a means for connecting other components of **personal fall arrest system** to the **anchorage**.

**LOWER-LEVELS:** those areas or surfaces to which an employee can fall. Such areas or surfaces include, but are not limited to, ground levels, floors,



platforms, ramps, runways, excavations, pits, tanks, material, water, equipment, structures, or portions thereof.

**MECHANICAL EQUIPMENT:** all motor or human propelled wheeled equipment used for **roofing work**, except wheelbarrows and mopcars.

**OPENING:** a gap or void 30 inches or more high and 18 inches or more wide, in a wall or partition through which employees can fall to a **lower level**.

**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 combination of these. **The use of body belts for fall arrest is prohibited.**

**POSITIONING DEVICE SYSTEM:** a **body belt** or **body harness** system rigged to allow an employee to be supported on an elevated vertical surface, such as a wall, and work with both hands free while leaning. Positioning device systems must be rigged so that an employee can not fall more than 2 feet.

**QUALIFIED PERSON:** A person designated by the employer who by reason of training, experience or instruction has demonstrated the ability to safely perform all assigned duties.

**ROPE GRAB:** a **deceleration device** which travels on a **lifeline** and automatically, by friction, engages the **lifeline** and locks so as to arrest the fall of an employee. A rope grab usually employs the principle of inertial locking, cam/level locking, or both.

**ROOF:** the exterior surface on the top of a building. This does not include floors or formworks which, because a building has not been completed, temporarily become the top surface of a building.

**ROOFING WORK:** the hoisting, storage, application, and removal of roofing materials and equipment, including related insulation, sheet metal, and vapor barrier work, but not including the construction of the **roof** deck.

**SAFETY-MONITORING SYSTEM:** a safety system in which a competent person is responsible for recognizing and warning employees of fall hazards.

- a. The safety monitor shall be competent to recognize fall hazards;
- b. The safety monitor shall warn the employee when it appears that the employee is unaware of a fall hazard or is acting in an unsafe manner;
- c. The safety monitor shall be within visual sighting distance of the employee and shall always be in communication with the employee being monitored; and,
- d. The safety monitor shall not have other responsibilities which could take the monitor's attention from the monitoring function.

No employee, other than an employee covered by a fall protection plan, shall be allowed in an area where an employee is being protected by a safety monitoring system.

Each employee working in a controlled access zone shall be directed to comply promptly with fall hazard warnings from safety monitors.

**SELF-RETRACTING LIFELINE/LANYARD:** a *deceleration device* containing a drum-wound line which can 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.

**SNAPHOOK:** a *connector* comprised of a hook-shaped member with a normally closed keeper of similar arrangement which may be opened to permit the hook to receive an object and, when released, automatically closes to retain the object. Snaphooks are generally one of two types:

- (1) the locking type with a self-closing, self-locking keeper which remains closed and locked until unlocked and pressed open for connection or disconnection; or
- (2) the non-locking type with a self-closing keeper which remains closed until pressed open for connection or disconnection. The use of a non-locking snaphook as part of *personal fall arrest systems* and *positioning device systems* is prohibited.

**STEEP ROOF:** a *roof* having a slope greater than 7:12 (vertical to horizontal) or sloped surfaces steeper than 40 degrees..

**TOEBOARDS:** a low protective barrier that will prevent the fall of material and equipment to *lower levels* and provide protection from falls for personnel.

**UNPROTECTED SIDES AND EDGES:** any side or edge (except at entrances to points of access) of a *walking/working surface*, e.g., floor, *roof*, ramp, or runway where there is no wall or *guardrail system* at least 39 inches high.

**WALKING/WORKING SURFACE:** any surface, whether horizontal or vertical, on which an employee walks or works, including, but not limited to, floors, roofs, ramps, bridges, runway, formwork and concrete reinforcing steel; not including ladders, vehicles, or trailers on which employees must be located in order to perform their job duties.

**WARNING LINE SYSTEM:** a barrier erected on a *roof* to warn employees that they are approaching an unprotected *roof* side or edge, and which designates an area in which *roofing work* may take place **without** the use of guardrail, *body belt*, or safety net systems to protect employees in the area.

**WORK AREA:** that portion of a *walking/working surface* where job duties are being performed.

## WHERE FALL PROTECTION IS REQUIRED

Approved personal fall arrest, personal fall restraint or positioning systems shall be worn by those employees whose work exposes them to falling in excess of 7 1/2 feet from the perimeter of a structure, unprotected sides and edges, leading edges, through shaftways and openings, sloped roof surfaces steeper than 7:12, or other sloped surfaces steeper than 40 degrees not otherwise adequately protected under the provisions of these Orders.

Below listed are specific situations where fall protection systems will be utilized.

### UNPROTECTED SIDES AND EDGES:

Each employee on a walking/working surface (horizontal and vertical surface) with an unprotected side or edge which is 7½ feet or more above a lower level shall be protected from falling by the use of guardrail systems, safety net systems, or personal fall arrest systems.

### LEADING EDGES:

Each employee who is constructing a leading edge 7½ feet or more above lower levels shall be protected from falling by guardrail systems, safety net systems, or personal fall arrest systems.

### HOIST AREAS:

Each employee in a hoist area shall be protected from falling 7½ feet or more to lower levels by guardrail systems or personal fall arrest systems.

If a guardrail system is utilized in a hoist area and portions of the system are removed to facilitate the hoisting operation, and an employee must lean through the access opening or out over the edge of the access opening, that employee must be protected by a fall arrest system.

### HOLES:

Each employee on walking/working surfaces shall be protected from falling through holes (including skylights) **regardless of height** above lower levels by personal fall arrest systems, covers, or guardrail systems.

- a. Each employee on a walking/working surface shall be protected from tripping in or stepping into or through holes (including skylights) **(regardless of height)** by covers.
- b. Each employee on a walking/working surface shall be protected from objects falling through holes **(regardless of height)** by covers.

A cover must be able to support 400 pounds or twice the expected load of workers and material, and be securely fastened. Covers must bear a sign, with minimum 1 inch letters, stating - **OPENING - DO NOT REMOVE.**

## **FORMWORK and REINFORCING STEEL:**

Each employee on the face of formwork or reinforcing steel shall be protected from falling 6 feet or more to lower levels by personal fall arrest systems, safety net systems, or positioning device systems.

## **RAMPS, RUNWAYS, and OTHER WALKWAYS:**

Each employee on ramps, runways, and other walkways shall be protected from falling 7½ feet or more to lower levels by guardrail systems.

## **EXCAVATIONS:**

Each employee at the edge of an excavation 7½ feet or more in depth shall be protected from falling by guardrail systems, fences, or barricades when the excavations are not readily seen because of plant growth or other visual barriers.

Further, each employee at the edge of a well, pit, shaft, and similar excavation 7½ feet or more in depth shall be protected from falling by guardrail systems, fences, barricades, or covers.

## **DANGEROUS EQUIPMENT:**

Each employee **less than 6 feet** above dangerous equipment shall be protected from falling into or onto the dangerous equipment by guardrail systems or by equipment guards.

Each employee **6 feet or more** above dangerous equipment shall be protected from fall hazards by guardrail systems, personal fall arrest systems, or safety net systems.

**REBAR:** Employees are not to place or tie reinforcing steel in walls, piers, columns, etc., more than **6 feet** above an adjacent surface unless a personal fall protection system is used or other method affording equivalent protection from the hazard of falls from elevated surfaces is employed.

Employees who work above grade or above any surface and who are exposed to protruding rebar or similar projections must be protected from impalement by:

- a. The use of guardrails, or
- b. Approved fall protection systems, or
- c. Approved troughs and covers.

**Exception:** Point-to-point horizontal or vertical travel on reinforcing steel up to 24 feet above the surface below providing there are no impalement hazards.

## **ROOFING WORK ON LOW-SLOPED ROOFS:**

Because the height from which an employee may fall to a lower level varies from zero feet to 20 feet during roofing operations, Cal/OSHA Standard §1730, Roof Hazards, is copied below:

### **§1730. Roof Hazards.**

(a) During roofing operations the employer shall comply with the provisions of Section 1509 and employees shall be trained and instructed in accordance with the provisions of Section 1510 of these orders.

(b) Slopes 0:12 to 4:12 -Single-Unit (Monolithic) Roof Coverings.

Great Western Painting

(1) Employees shall be protected from falls from roofs of a height of more than 20 feet by use of one or a combination of the methods in this section. Whenever felt laying machines or other equipment that is pulled by an operator who walks backwards is being used, this provision shall apply regardless of the height.

(2) Warning lines consisting of rope, wire or similar material, flagged with highly visible material hanging from the warning lines at approximately 6-foot intervals, shall be installed 34 to 45 inches above the roof surface to warn employees that they are approaching the edge of the roof.

(A) The stanchions (portable or fixed) supporting the warning lines shall be designed and installed to minimize tip over or displacement under normal working conditions.

(B) Warning lines shall have a minimum tensile strength of 500 pounds.

(C) The line shall be attached at each stanchion in such a way that pulling on one section of the line between stanchions will not result in slack being taken up in adjacent sections before the stanchion tips over.

(3) Unless conditions prohibit, headers consisting of sheets of roofing or other roofing materials shall also be laid parallel to the edges of the roof to warn employees that they are approaching the edge of the roof.

(4) The warning lines and headers shall be placed no closer than 5 feet from the roof edge.

(5) When using felt-laying machines or other equipment that is pulled by an operator who walks backwards or motorized equipment on which the operator rides, the headers shall be placed no closer than 10 feet and the warning lines shall be placed no closer than 5 feet from those roof edges that are perpendicular (or nearly so) to the direction in which the operator is moving and when conditions prohibit the use of headers, the warning lines shall be placed no closer than 10 feet from those roof edges that are perpendicular (or nearly so) to the direction in which the operator is moving.

(6) The warning lines and headers shall be erected either around the complete perimeter of the roof or only in areas of the roof where work is being accomplished, so long as the warning lines and headers are moved as the work progresses in such a manner as to provide continuous warning to employees in the work area when they approach the roof edge. Access paths shall be erected as follows:

(A) Points of access, materials handling areas and storage areas shall be connected to the work area by a clear access path formed by two warning lines.

(B) When the path to a point of access is not in use, a rope, wire, or chain, equal in strength and height to the warning line, shall be placed across the path at the point where the path intersects the warning line erected around the work area.

(7) Employees shall be instructed to stay inside the warning lines and headers except when work must be performed at the roof edge.

(8) Application of materials outside the warning lines shall be closely supervised by a qualified person.

(9) On narrow roofs and roofs of unusual shape where warning lines and headers would be impractical, the application of materials shall be closely supervised by a qualified person.

supervised by a qualified person.

(10) When a felt-laying machine or any other equipment that is pulled by an operator who walks backwards is being used, the operator shall be no closer than 3 feet to the roof edges that are parallel (or nearly so) to the direction in which the operator is moving. Motorized equipment on which the operator rides shall not be used or stored between the warning line and the roof edge.

Note: The provisions of subsection (b) do not apply when employees are protected by the use of one or a combination of the following methods:

Personal Fall Protection [Section 1724(f)].

Catch Platforms [Section 1724(c)].

Scaffold Platforms [Section 1724(d)].

Eave Barriers [Section 1724(e)].

Standard Railings and Toeboards (Article 16).

Parapets at least 24 inches high; except that at those job sites where felt-laying machines or other equipment that is pulled by an operator who walks backwards or motorized equipment on which the operator rides is being used, the provisions of this subsection shall not apply provided that the parapet is 36 inches or more in height at those roof edges which are perpendicular (or nearly so) to the direction in which the equipment is moving.

(c) Slopes Greater Than 4:12 -Single-Unit (Monolithic) Roof Coverings.

Employees shall be protected from falls from roofs of a height of more than 20 feet by use of one or a combination of the following methods:

(1) Parapets, 24 inches or higher.

(2) Personal Fall Protection [Section 1724(f)].

(3) Catch Platforms [Section 1724(c)].

(4) Scaffold Platforms [Section 1724(d)].

(5) Eave Barriers [Section 1724(e)].

(6) Standard Railings and Toeboards (Article 16).

Note: The provisions of this subsection (c) do not apply under the following conditions:

At those job sites where motorized equipment on which the operator rides which has been designed for use on roofs of slopes greater than 4:12 is being used if the parapet is 36 inches or more in height at those roof edges which are perpendicular (or nearly so) to the direction in which the equipment is moving.

(d) Equipment Hazards on Sloped Roofs -Single-Unit (monolithic) Roof Coverings. Equipment that is pulled by an operator who walks backwards shall not be used on a roof having a slope greater than 4:12.

(e) Slopes 0:12 Through 5:12 -Multiple-Unit Roof Coverings. Employees shall be protected from falls from roofs that are of a height of more than 20 feet by the use of a roof jack system as provided in Section 1724(a), a minimum of 24-inch high parapet, or other method affording equivalent protection.

(f) Slopes Greater Than 5:12 -Multiple-Unit Roof Coverings. Employees shall be protected from falls from roofs that are of a height of more than 20 feet by one or a combination of the following methods:

(1) A parapet at least 24 inches high.

(2) Personal Fall Protection [Section 1724(f)].

(3) Catch Platforms [Section 1724(c)].

(4) Scaffold Platforms [Section 1724(d)].

(5) Eave Barriers [Section 1724(e)].

(6) Roof Jack Systems [Section 1724(a)] (Safety lines shall be required in conjunction with roof jack systems on roofs steeper than 7:12)

Note: For purposes of Section 1730, the height measurement shall be determined by measuring the vertical distance from the lowest edge of the roof or eaves to the ground or level below. The height of parapets shall not be included in the roof height measurements.

Exception to Section 1730: Section 1731 applies instead of Section 1730 for roofing work on new production-type residential construction with roof slopes 3:12 or greater.

Each employee engaged in roofing activities on low-sloped roofs with unprotected sides and edges 6 feet or more above lower levels shall be protected from falling by guardrail systems, safety net systems, personal fall arrest systems or a combination of a warning line system and a safety net system or a warning line system and a safety monitoring system.

**Note: On roofs 50 feet or less in width, the use of a safety monitoring system alone (without the warning line system) is permitted.**

### **STEEP ROOFS:**

Each employee on a steep roof with unprotected sides and edges 7½ feet or more above lower levels shall be protected from falling by guardrail systems with toeboards, safety net systems, or personal fall arrest systems.

**Note:** Fall protection is required **at any height** when working:

- a. on roofs having a pitch of 4:12 or greater, while workers use pneumatic nailers.
- b. on roofs, while an operator uses a felt-laying machine or other equipment that requires the operator to walk back-wards.

### **PRECAST CONCRETE ERECTION:**

Each employee, engaged in the erection of precast concrete members (including, but not limited to the erection of wall panels, columns, beams, and floor and roof "tee") and related operations such as grouting of precast concrete members, who is 6 feet or more above lower levels shall be protected from falling by guardrail systems, safety net systems, or personal fall arrest systems.

## **STEEL ERECTION (IRON WORK):**

**Note:** A qualified person will provide fall hazard training as it relates to steel erection and instruction will cover the following topics:

1. The recognition and identification of fall hazards in the work area;
2. The use and operation of guardrail systems (including perimeter safety cable systems), personal fall arrest systems, positioning device systems, fall restraint systems, safety net systems, and other protection to be used;
3. The correct procedures for erecting, maintaining, disassembling, and inspecting the fall protection systems to be used;
4. The procedures to be followed to prevent falls to lower levels and through or into holes and openings in walking/working surfaces and walls; and
5. The fall protection requirements for structural steel erection.

A PFP system must be used if guard rails or safety nets are not installed if working 15 feet or more above a lower level, except as noted below.

### **Connecting:**

When connecting beams or other structural members at the periphery or interior of a building or structure where the fall distance is greater than two stories or 30 feet, whichever is less, iron workers shall be provided with and use a personal fall protection system tied-off to either columns, pendant lines secured at the tops of columns, catenary lines, or other secure anchorage points.

At heights over 15 and up to 30 feet above a lower level, connectors shall be provided with a personal fall arrest system, positioning device system or fall restraint system and wear the equipment necessary to be able to be tied off; or be provided with other means of protection from fall hazards.

### **STRUCTURAL WOOD FRAMING SYSTEMS:**

When working on structural wood framing systems and during framing activities on wood or light gauge steel frame residential/light commercial construction 15 or more feet above a lower level, a PFP system must be used if guard rails or safety nets are not installed.

**Exception:** For residential/light commercial frame construction, workers are considered protected when working on braced joists, rafters or roof trusses spaced on 24 inch (or less) centers when they work more than 6 feet from unprotected sides or edges.

### **WALL OPENINGS:**

Each employee working on, at, above, or near wall openings from which there is a drop of more than 4 feet, and the bottom of the opening is less than 3 feet above the working surface, will be guarded as follows:

1. When the height and placement of the opening in relation to the working surface is such that either a standard rail or intermediate



rail will effectively reduce the danger of falling, one or both shall be provided;

2. The bottom of a wall opening, which is less than 4 inches above the working surface, regardless of width, will be protected by a standard toeboard or an enclosing screen. A toeboard is not required when a chute is attached to the opening.

### **WALKING/WORKING SURFACES NOT OTHERWISE ADDRESSED:**

Each employee on a walking/working surface 7½ feet or more above a lower level that is not addressed will be protected from falling by a guardrail system, a safety net system, or a personal fall arrest system.

NOTE: On multi-employer work sites, employees of all contractors and subcontractors must understand the fall protection hazards that exist and be aware of the various methods of fall protection even if they are NOT directly exposed to fall hazards in their particular work area. For example, a contractor may have a controlled access zone in place and all persons on the job site, regardless of their employer, must understand the importance of remaining outside that CAZ.

### **PRE-CONSTRUCTION SURVEY**

Prior to the initiation of any construction project, the job site will be surveyed by a competent/qualified person to determine:

- a. if fall protection systems will be required.
- b. if fall hazards exist, the types of conventional fall protection systems to be utilized.
  1. particular attention will be given to anchorage points, location of warning lines, etc..
- c. rescue procedures to be used if a fall actually occurs.
- d. the load-carrying capabilities of the walking/working surface.
- e. assuring that all personnel utilizing a fall protection system have training in that system.

This survey may be made without the use of fall protection because no work will be accomplished during this survey and installing fall protection systems would create a greater hazard.

If it is determined that certain areas within the overall worksite have fall hazards that cannot be addressed with conventional fall protection systems (those areas being limited to leading edge work, residential construction work, and precast concrete work), **then** a Fall Protection Plan must be prepared to specifically protect employees from these hazards.

## **FALL PROTECTION SYSTEMS**

### **GUARDRAIL SYSTEM:**

A guardrail system is a physical barrier erected to prevent employees from falling to lower levels.

The main advantage of a guardrail system is that it is a “passive” system which, once installed, requires no employee involvement in its function. A guardrail will stop an employee who inadvertently walks into it.

A standard guardrail shall consist of top rail, midrail or equivalent protection, and posts, and shall have a vertical height within the range of 42 inches to 45 inches from the upper surface of the top rail to the floor, platform, runway, or ramp level.

### **GUARDRAIL SYSTEMS AT HOISTING AREAS:**

When guardrail systems are used at hoisting areas, a chain, gate or removable guardrail section shall be placed across the access opening between the guardrail sections when hoisting operations are not taking place.

NOTE: If a portion of the guardrail system is removed at a hoisting area to facilitate the hoisting operations **and** an employee must lean out over the opening, then that employee must be protected by a personal fall arrest system. In this instance it is important to remember that the personal fall arrest system may not be attached to the guardrail system.

### **GUARDRAIL SYSTEMS AT HOLES:**

Guardrail systems used at holes shall be erected on all unprotected sides of the edges of the hole.

When the hole is to be used for the passage of materials, the hole shall not have more than two sides provided with removable guardrail sections to allow the passage of materials. When the hole is not in use, it shall be closed over with a cover **or** protected with a guardrail system on all unprotected sides or edges.

NOTE: Guardrails need not be erected around holes while employees are working at the hole, passing materials through the hole, etc.. When work is completed around the hole, the hole must be protected by guardrails on all sides of the hole or by covers.

Guardrail systems used around holes which are used as points of access (such as ladderways) will be provided with a gate or be offset so that a person cannot walk directly into the hole.

### **GUARDRAIL SYSTEMS ON RAMPS AND RUNWAYS:**

Guardrail systems used on ramps and runways shall be erected along each unprotected side or edge. Ramps, runways, and other walkways on which employees need protection from falling 7½ feet or more to a lower level must be protected by a guardrail system and only a guardrail system.

## **PERSONAL FALL ARREST SYSTEM:**

A personal fall arrest system is, as the name implies, a means of safety decelerating a falling body before a lower level is hit. The three (3) main components of a personal fall arrest system are the:

a. anchorage point:

Anchorage used for attachment of personal fall arrest equipment shall be independent of any anchorage being used to support or suspend platforms and capable of supporting at least 5,000 pounds per employee attached, or shall be designed, installed, and used as follows:

1. as part of a complete personal fall arrest system which maintains a safety factor of at least two; and
2. under the supervision of a qualified person.

b. lanyard.

c. body harness.

**Note: Body belts will not be used in a personal fall arrest system.**

Personal fall arrest systems, when stopping a fall, shall:

1. limit maximum arresting force on an employee to 1,800 pounds when used with a body harness;
2. be rigged such that an employee can neither free fall more than 6 feet, nor contact any lower level, and, where practicable, the anchor end of the lanyard shall be secured at a level not lower than the employee's waist;
3. bring an employee to a complete stop and limit maximum deceleration distance an employee travels to 3.5 feet; and
4. have sufficient strength to withstand twice the potential impact energy of an employee free falling a distance of 6 feet, or the free fall distance permitted by the system, whichever is less.

## **SAFETY NET SYSTEM:**

Safety nets will be installed as close as practicable under the walking/working surface on which employees are working.

Where the elevation is 25 feet or more above the ground, water surface, or continuous floor level below, and when the use of personal fall arrest systems, personal fall restraint systems, positioning device systems or more conventional types of protection are clearly impractical, the exterior and/or interior perimeter of the structure shall be provided with an approved safety net extending at least 8 feet horizontally from such perimeter and being positioned at a distance not to exceed 10 feet vertically below where such hazards exist, or equivalent protection provided safety nets shall

extend outward from the outermost projection of the work surface as follows:

<i>Vertical distance from working level to horizontal plane of net.</i>	<i>Minimum required horizontal distance of outer edge of net from the edge of working surface</i>
Up to 5 feet	8 feet
More than 5 feet up to 10 feet	10 feet
More than 10 feet but not to exceed 30 feet.	13 feet

Nets shall be hung with sufficient clearance to prevent user's contact with the surfaces or structures below. Such clearances shall be determined by impact load testing.

### **Safety net labeling:**

Safety nets purchased on or after January 1, 1998 will be labeled as meeting the requirements of ANSI A10.11-1989. Safety nets purchased before January 1, 1998 will be labeled as meeting the requirements of ANSI A10.11-1979 or ANSI A10.11-1989.

### **WARNING LINE SYSTEM:**

A warning line system is a barrier erected on a roof to warn employees that they are approaching an unprotected roof side or edge, and which designates an area in which roofing work may take place without the use of guardrail, body belt, or safety net systems to protect employees in the area. A warning line system is to be used only during roofing work on low-sloped roofs over 50-feet in width with unprotected sides and edges 6-feet or more above lower levels (on a simple rectangular roof, width is the lesser of the two primary overall dimensions. This is also the case with roofs which are sloped toward or away from the roof center). Most importantly, warning line systems must be used in conjunction with either a guardrail system; a safety net system; a personal fall arrest system; or a safety monitoring system.

NOTE: In the above scenario, either a guardrail system, a safety net system, or a personal fall arrest system alone provides adequate fall protection.

As a general rule, warning line systems will be used in conjunction with a safety monitoring system.

A warning line, made of ropes, wires, chains and supporting stanchions will be flagged at no more than 6-foot intervals with high-visibility material. As the name implies, this line will only "warn" employees that they are approaching an unprotected side or edge. The horizontal resisting force of a warning line is 16 pounds versus 200 pounds for a guardrail system.

No personnel are allowed in the area between a roof edge and a warning line unless they are performing roofing work in that area.

Mechanical equipment on roofs shall only be used in areas that are protected by either a warning line system, a guardrail system, or a personal fall arrest system.

The warning line shall be erected around all sides of the roof work area not less than 6-feet from the roof edge unless mechanical equipment is being used. In that case, the warning line shall be erected not less than 6-feet from the roof edge which parallels the mechanical operation and not less than 10 feet from the roof edge which is perpendicular to the direction of the mechanical operation.

Points of access, material handling areas, storage areas, and hoisting areas shall be connected to the work area by an access path formed by two warning lines. When the aforementioned areas are not in use, the warning line will be adjusted to completely seal off the work area so that a person cannot inadvertently enter the area.

### **SAFETY MONITORING SYSTEM:**

A safety monitoring system used in conjunction with a warning line system is not considered a “passive system” because it takes active employee involvement and, as such, both the Safety Monitor and the employee(s) being monitored must be alert for fall hazards.

A competent person will perform the duties of Safety Monitor. These duties include:

- a. recognizing fall hazards,
- b. warning the employee when it appears the employee is unaware of a fall hazard or is acting in an unsafe manner,
- c. remaining on the same walking/working surface and within visual sighting of the employee being monitored, and
- d. remaining close enough to communicate orally with the employee being monitored.

The Safety Monitor shall have no other responsibilities which could take the monitor’s attention from the monitoring function.

Only the employee engaged in roofing work on low-sloped roofs or an employee covered by a fall protection plan is allowed in the area being protected by the Safety Monitor.

When a safety monitoring system is being used, mechanical equipment will not be used or stored in that controlled zone.

Of course, the employee being monitored is required to comply promptly with the fall hazard warnings from the Safety Monitor.

### **POSITIONING DEVICE SYSTEM:**

Positioning device systems and their use must conform to **all the following provisions:**

1. Positioning devices shall be rigged such that an employee cannot free fall more than 2 feet.

2. Positioning device systems shall be inspected prior to each use for wear, damage, and other deterioration, and defective components shall be removed from service.
- 3 The use of non-locking snaphooks shall be prohibited after January 1, 1998.
4. Anchorage points for positioning device systems shall be capable of supporting two times the intended load or 3,000 pounds, whichever is greater.

A positioning device system consists of a body belt or body harness system rigged to allow an employee to be supported on an elevated vertical surface, such as a wall, and work with both hands free while leaning. It is used during formwork and steel reinforcing.

Positioning device systems must be inspected prior to each use for wear, damage, and other deterioration. Defective components must be removed from service. Components of positioning device systems must never be used for purposes other than that for which they were designed -- specifically fall protection and/or positioning on a vertical surface.

#### **CONTROLLED ACCESS ZONE (CAZ):**

A controlled access zone is an area in which certain work activity may take place without the use of guardrail systems, personal fall arrest systems, or safety net systems and access to the zone is controlled.

Controlled access zones will only be used as part of a fall protection plan. Controlled access zones are work areas that have limited access to only authorized personnel by means of control lines or other means that restrict access.

#### **COVERS:**

Covers can prevent an employee from stepping into a hole, tripping over a hole, falling through a hole, or being injured by objects falling through a hole.

NOTE: When work is completed around a hole, the hole must be protected by guardrails on all sides of the hole or by covers.

Covers must be capable of supporting, without failure, twice the weight of the employees, equipment, and/or materials that may be imposed upon them.

Covers, when used, must be secured to prevent accidental displacement by wind, equipment, or employees.

All covers must be color coded or marked with the word: "HOLE" or "COVER" to identify the hazard.

Covers, and only covers, will be used on walking/working surfaces to protect employees from tripping or stepping into or through a hole (including skylights). This provision is **regardless of the height** of the hole above a lower surface.

Covers, and only covers, will be used to protect employees from objects falling through holes (including skylights). This provision is **regardless of the height** of the hole above a lower surface.

### **PROTECTION FROM FALLING OBJECTS:**

Covers are to be used to protect employees from objects falling through holes (including skylights) from upper surfaces regardless of heights.

Toeboards, used to prevent objects from falling on employees on a lower level must be at least 3½ inches high with not more than a ¼ inch clearance between the toeboard and the walking/working surface. When tools, materials, or equipment are piled higher than the top edge of the toeboard, paneling or screening will be erected from the top of the toeboard to the appropriate mid or top rail of the guardrail system to provide adequate protection to employees below.

## **FALL PROTECTION PLAN**

### **§1671.1. Fall Protection Plan.**

The foregoing Fall Protection **Program** is not a Fall Protection **Plan** per se. However, implementing the preceding guidelines for conventional fall protection systems coupled with certified formal and hands-on training will provide appropriate fall protection for our employees.

There may be occasions where conventional fall protection systems just will not work.

When it can be shown that the use of conventional fall protection is impractical or creates a greater hazard, a fall protection plan will be prepared by a **qualified person and developed specifically for the site where the construction work is being performed.** A qualified person is one who by reason of training, experience or instruction has demonstrated the ability to safely perform all assigned duties.

The plan must be maintained up to date. Only a single site fall protection plan needs to be developed for sites where the construction operations are essentially identical.

The implementation of the fall protection plan shall be under the supervision of a competent person. The plan shall document the identity of the competent person. Our competent person for the implementation of our fall protection plan is: Robert Evans

A copy of the fall protection plan with all approved changes will be maintained at the job site.

The fall protection plan will document the reasons why the use of conventional fall protection systems (guardrails, personal fall arrest systems, or safety nets) are infeasible or why their use would create a greater hazard.

The fall protection plan shall include a written discussion of other measures that will be taken to reduce or eliminate the fall hazard for workers who cannot be provided with protection provided by conventional fall protection systems. For example, the employer shall discuss the extent to which scaffolds, ladders, or vehicle mounted work platforms can be used to provide a safer working surface and thereby reduce the hazard of falling.

The fall protection plan shall identify each location where conventional fall protection methods cannot be used. These locations shall then be classified as controlled access zones.

Where no other alternative measure (i.e. scaffolds, ladders, vehicle mounted work platforms, etc.) has been implemented, the employer will implement a safety monitoring system utilizing a controlled access zone, specifically: when used to control access to areas where leading edge and other operations are taking place, the controlled access zone shall be defined by a control line or by any other means that restricts access. Signs shall be posted to warn unauthorized employees to stay out of the controlled access zone. We shall designate a competent person to monitor the safety of other employees.

The fall protection plan must include a statement which provides the name of each employee who is designated to work in controlled access zone. No other employees may enter controlled access zones.

In the event an employee falls, or some other related, serious incident occurs (e.g., a near miss), the employer shall investigate the circumstances of the fall or other incident to determine if the fall protection plan needs to be changed (e.g., new practices, procedures, or training) and will implement those changes to prevent similar types of falls or incidents.

### **ACCIDENTS AND NEAR ACCIDENTS**

Accidents and near accidents involving fall hazards will be investigated by the Fall Protection Program Administrator to determine the cause of the incident and a method of preventing a reoccurrence. Questions to be considered are:

- a. Was the fall protection system selected appropriate for the hazard?
- b. Was the system properly installed?
- c. Was the person involved in the accident following proper procedures?
- d. Were there contributing factors such as ice, wind, debris, etc.?
- e. Is retraining or a change of the Fall Protection Plan required?

### **TRAINING/RETRAINING**

Training, which must be certified, will include the following topics:

- a. the nature of fall hazards in the work area.
- b. the correct procedures for erecting, maintaining, disassembling, and inspecting the fall protection to be used.



- c. the use and operation of guardrail systems; personal fall arrest systems; safety net systems' warning line systems; safety monitoring systems' controlled access zones; and other protection to be used.
- d. the role of the Safety Monitor and the role of the employee when a safety monitoring system is used.
- e. the limitations on the use of mechanical equipment during the performance of roofing work on low-sloped roofs.
- f. the correct procedures for handling and storage of equipment and materials and the erection of overhead protection.
- g. the role of employees in fall protection plans.
- h. Where employees are subject to known job site hazards, such as, flammable liquids and gases, poisons, caustics, harmful plants and animals, toxic materials, confined spaces, etc., they shall be instructed in the recognition of the hazard, in the procedures for protecting themselves from injury, and in the first aid procedure in the event of injury.

Training will be conducted by competent person(s).

Should the competent person, a supervisor, or the Program Administrator suspect that an employee lacks the skills needed for proper fall protection, that employee will be retrained.

Changes in the workplace, types of fall protection systems and equipment will also necessitate retraining.

Only the latest Training Certificate will be kept on file.