

2012 CRCA TRADE SHOW

FALL PROTECTION FOR STEEP SLOPED AND LOW SLOPED ROOFS

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LOW SLOPED ROOFS

Safety Nets

Guardrails

Personal Fall Arrest Equipment

Warning lines & safety monitors

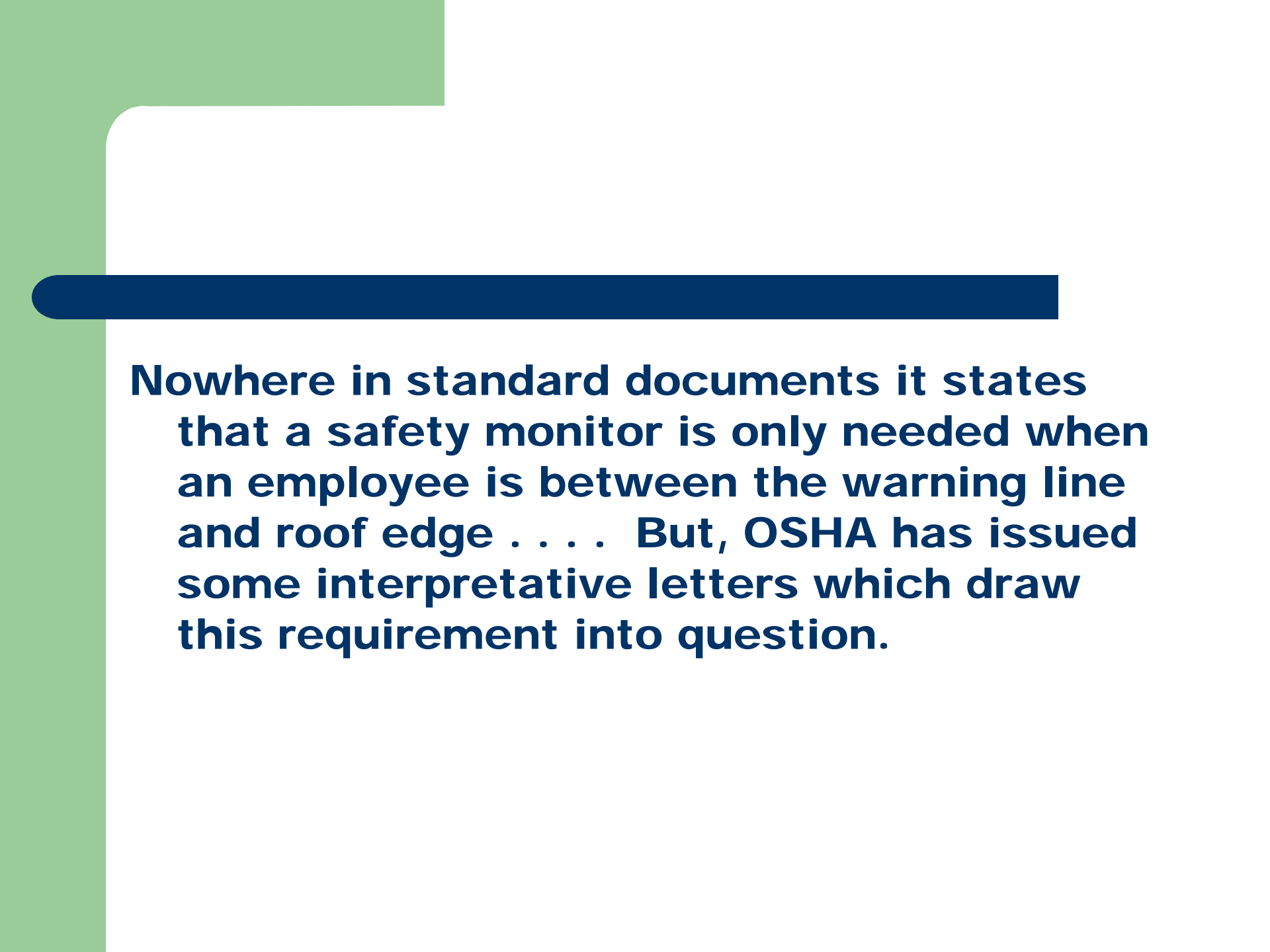
1926.501(b)(10)

Conventional Fall Protection

— OR —

Combination of:

1. Warning line system & guardrail system
2. Warning line system and safety net system
3. Warning line system and PPE
4. Warning line system and safety monitor system



Nowhere in standard documents it states that a safety monitor is only needed when an employee is between the warning line and roof edge But, OSHA has issued some interpretative letters which draw this requirement into question.



On roofs 50 feet or less in width a safety monitoring system alone.

WARNING LINE SYSTEM

1. Erected around all sides of work area.
1926.502(f)(1)
2. No closer to roof edge than 6 ft.
1926.502(f)(1)(i)
3. Lowest point no less than 34 inches
above deck. 1926.502(f)(2)(ii)
4. Flagged every 6 ft. or less
1926.502(f)(2)(i)

- Points of access, material handling areas, storage areas, and hoist areas shall be connected to work area by access path formed by two warning lines.

1926.502(f)(1)(iii)

- When no in use, some form of barricade must block access to path.

1926.502 (f)(1)(iv)

SAFETY MONITOR SYSTEMS

Safety monitor shall be:

- A competent person
1926.502(h)(1)
- Competent to recognize fall hazards
1926.502(h)(1)(i)

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- A decorative graphic on the left side of the slide, consisting of a light green vertical bar and a dark blue horizontal bar with rounded ends.
- Same walking/working surface AND within visual sighting distance of person being monitored

1926.502(h)(1)(iii)

- Close enough to communicate orally with employee

1926.502(h)(1)(iv)

- No other responsibilities.
1926.502(h)(1)(v)

STEEP SLOPED ROOFING SAFETY

June 18, 1999 – STD 03-11-00 Interim Fall Protection Guidelines for Residential Construction

Dec. 16, 2010 – Dr. Michaels announces rescission of STD 03-11-001

June 16, 2011 – STD 03-11-002 – rescission document

Sept. 15, 2011 – Rescission effective for enforcement

STD 03-11-001

Major impact to residential roofers was to permit ease in taking advantage of 1926.501(b)(13). STD 03-11-001 eliminated the need for most of the requirements in 1926.502(k) including the need for a written fall protection plan.

It also permitted use of slide guards to provide fall protection on steep sloped roofs.

NOW

Under STD 03-11-002, residential roofing contractor are back to having to use either conventional fall protection

— OR —

Demonstrate that they meet the infeasibility or greater hazard test to take advantage of the written fall protection plan permitted in 1926.502(k).

The BLS Released Statistics Showing the Leading Causes of Construction Fatalities

FATALITIES	2005	2006	2007	2008	2009
FALLS	394	433	447	332	283
STRUCK BY	130	120	106	108	79
ELECTROCUTIONS	107	126	108	89	89
CAUGHT IN/BETWEEN	111	96	98	92	34

Source: BLS CFOI Data



The BLS Released Statistics Showing the Fall Fatalities in Residential Construction

FATALITIES	2005	2006	2007	2008	2009
TOTAL FALLS	134	130	110	93	78
FALLS FROM ROOFS	48	49	35	28	31

Source: BLS CFOI Data



WHY?

- Interim guideline, never intended to be permanent
- Conventional fall protection safe and feasible for vast majority of residential construction activities.
- OSHA received recommendations to rescind the interim directive.
- The new policy implements the standards as originally intended.

ALTERNATIVES UNDER NEW DIRECTIVES

1926.502(K) – Develop a written fall protection plan

- Must show that conventional fall protection is infeasible or creates a greater hazard.
- OSHA does not consider economic infeasibility to be a basis for providing conventional fall protection
- OSHA makes a presumption of feasibility
- Plan must be site specific

DEFINITION OF RESIDENTIAL

STD 03-11-002 -

End use must be as a home, i.e. a dwelling;
and

Must be constructed using traditional wood frame construction materials and methods.

- the limited use of I-beams to help support wood framing does not disqualify the structure



Cold-formed metal studs will be considered within the bounds of traditional wood frame.

The use of brick or block in exterior walls will be treated as falling within definition.

Precast concrete or use of steel I-beams beyond the limited use noted will take structure out of residential classification.

Training Requirements 1926.503

- Training by a competent person must cover among other subjects:
 - The nature of fall hazards in the work area.
 - How to erect, maintain, disassemble, and inspect the fall protection systems to be used.
 - How to use and operate the fall protection systems to be used.
 - Subpart M requirements
- Supplements 1926.21
- Prepare training certification.
 - Documentation of the latest training certification must be maintained.
- Retraining for:
 - Changes in the fall protection systems to be used or to the workplace.
 - Inadequacies in employee's knowledge or use of fall protection indicates that retraining is necessary

Guardrails

Guardrail Systems



Guardrails in place during re-roofing activities.

Note: The picture on the right lacks protection for the rake edge so some means of protecting this worker (guardrail, safety nets or PFAS) must be used.

Guardrail Systems



Here we see a fully guardrailed roof ready to go.

Safety Net Systems

Safety Net Systems



These nets have been positioned to prevent falls to the interior of the building. Employers should consult the manufacturer's instructions and/or a registered professional engineer to ensure proper installation of the net and bracing of the stud walls. Give due consideration to the potential impact load on the net and lateral load on the stud walls in the event of a fall.

Personal Fall Arrest System

Personal Fall Arrest System Anchor Point

- 1926.502(d)(15): Anchorages used for attachment of Personal Fall Arrest equipment must be capable of supporting at least 5,000 pounds per employee attached, or must be designed and used as follows:
 - As part of a complete personal fall arrest system which maintains a safety factor of at least two.
 - Under the supervision of a qualified person.
- Employer should look to the manufacturer's instructions or the recommendations of a registered professional engineer for proper installation.



Personal Fall Arrest System Anchor Point



Personal Fall Arrest System Full Body Harness

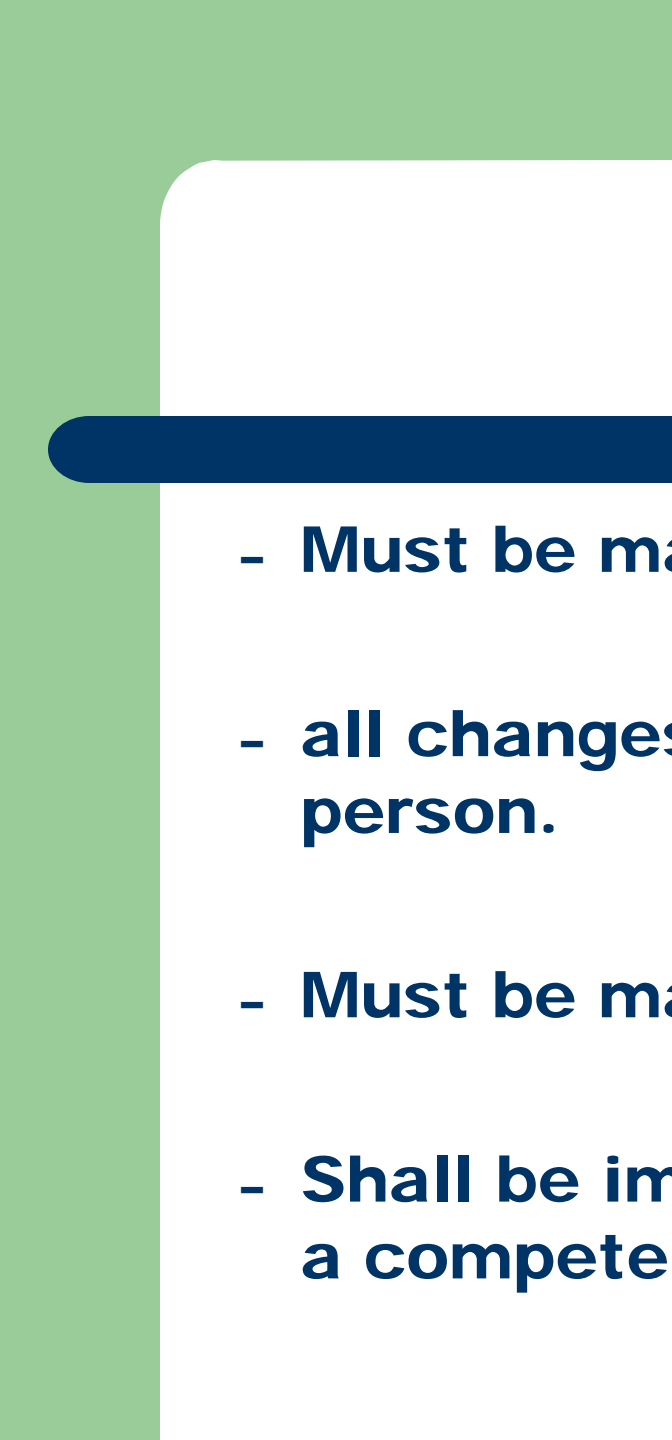


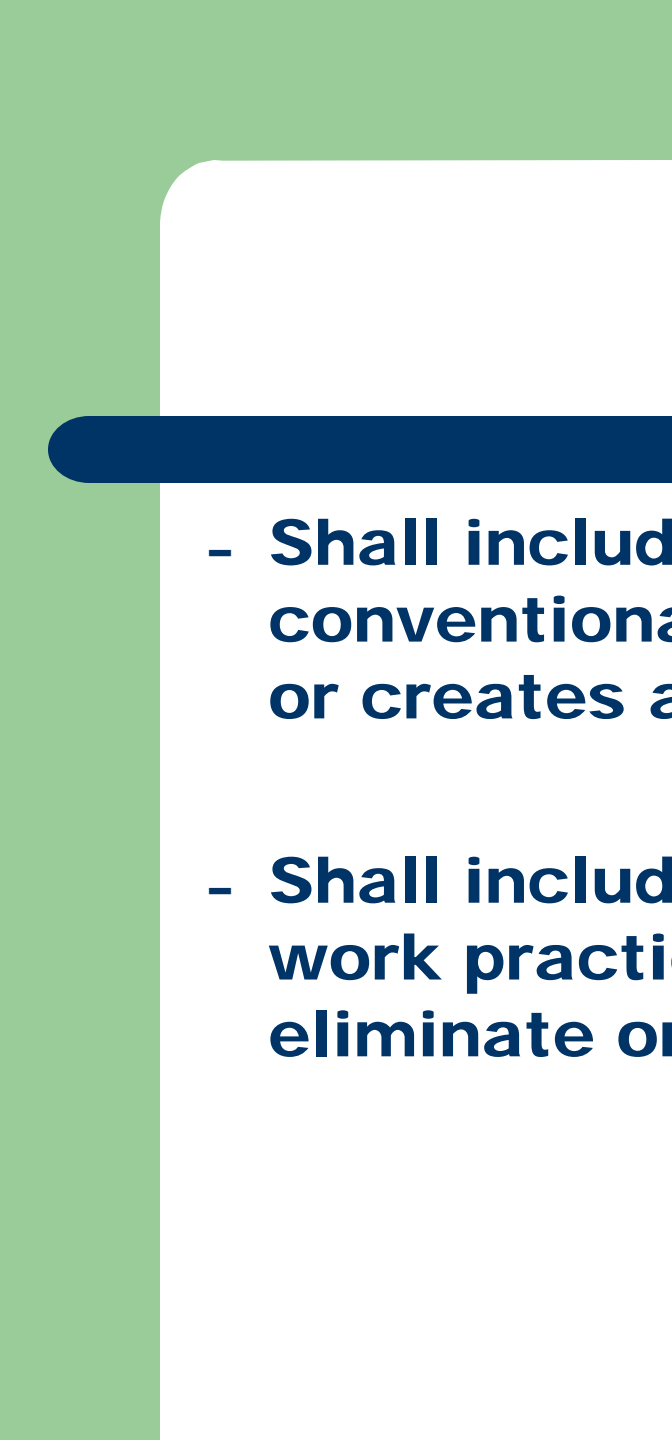
PFAS in use during roofing and re-roofing activities.

Written Fall Protection Plan

Must:

- Be written
- Be site specific – Standardized plan can be used, but it must be reviewed and revised, as necessary, on a site-by-site basis.
- Must be prepared by a qualified person.

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- A decorative graphic on the left side of the slide, consisting of a light green vertical bar and a dark blue horizontal bar with rounded ends.
- Must be maintained up to date.
 - all changes must be approved by a qualified person.
 - Must be maintained up to date.
 - Shall be implemented under supervision of a competent person.

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- A decorative graphic on the left side of the slide, consisting of a light green vertical bar and a dark blue horizontal bar with rounded ends.
- Shall include documentation as to why conventional fall protection is not feasible or creates a greater hazard.
 - Shall include a discussion of alternative work practices to be used that will eliminate or reduce the possibility of a fall.

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- A decorative graphic on the left side of the slide, consisting of a light green vertical bar and a dark blue horizontal bar with rounded ends.
- Shall identify each location (on project) where conventional fall protection cannot be used and designate them as controlled access zones (CAZ).
 - Implement a safety monitoring system where no other alternative measure has been implemented.

- Shall identify all workers designated to work in CAZ.
- Shall be reviewed and updated, as appropriate, if a fall or near miss occurs.



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