

DEPARTMENT OF INDUSTRIAL RELATIONS  
Occupational Safety and Health Standards Board  
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## **INITIAL STATEMENT OF REASONS**

### CALIFORNIA CODE OF REGULATIONS

TITLE 8: Sections 1671.1, 1716.2, 1730, and 1731  
of the Construction Safety Orders

### **Fall Protection in Residential Construction**

#### **SPECIFIC PURPOSE AND FACTUAL BASIS OF PROPOSED ACTION**

Federal Occupational Safety and Health Administration (Fed-OSHA) fall protection requirements for the construction industry are set forth in subpart M of title 29 Code of Federal Regulations (29 CFR) part 1926 published on August 9, 1994. Fed-OSHA residential fall protection standards are contained in subpart M at 29 CFR section 1926.501(b)(13) and require fall protection (usually conventional fall protection, i.e. guardrail systems, safety net systems or personal fall arrest systems, fall restraint and fall positioning systems) for work six feet or more above lower levels, except where employers can demonstrate that such fall protection systems are infeasible or would create a greater hazard. The comparable California standard contained in Construction Safety Order (CSO) section 1716.2 establishes a fall protection trigger height at 15 feet for residential and light commercial framing. Title 8 residential roofing standards specify trigger heights varying from zero to 20 feet depending on the type and slope of the roof.

After Fed-OSHA promulgated subpart M in 1994, representatives of the residential construction industry argued that they needed more compliance flexibility than the standard allowed. As a result, Fed-OSHA issued Standard Instruction 3.1<sup>1</sup> on December 8, 1995, which established an interim compliance policy that permitted employers engaged in certain residential construction activities to use specified alternative procedures instead of conventional fall protection. These alternative procedures could be used without a prior showing of infeasibility or greater hazard and without a written, site specific fall protection plan. On June 18, 1999 Fed-OSHA issued Standards Directive (STD) 3-0.1A<sup>2</sup>, re-designated as STD 03-00-001, a plain language replacement for Standard Instruction 3.1. California did not adopt either of the Fed-OSHA directives and continued to enforce its established residential framing and roofing industry fall

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<sup>1</sup> Federal Occupational Safety and Health Administration (Fed-OSHA). Interim Fall Protection Compliance Guidelines for Residential Construction. <https://www.osha.gov/enforcement/directives/std-31>

<sup>2</sup> Fed-OSHA. Plain Language Revision of OSHA Instruction STD 3.1, Interim Fall Protection Compliance Guidelines for Residential Construction. <https://www.osha.gov/enforcement/directives/std-03-00-001>

protection standards which emphasized the use of positive fall protection means, albeit at higher trigger heights than Fed-OSHA, together with employee training.

On December 16, 2010, Fed-OSHA published another instruction designated STD 03-11-002<sup>3</sup> which rescinded STD 03-00-001. In this new compliance guidance, employers engaged in residential construction must comply with 29 CFR section 1926.501(b)(13), requiring workers engaged in residential construction six feet or more above lower levels to be protected from falls by conventional fall protection. The new guidance also stipulated that if employers are able to demonstrate that the use of such measures is infeasible or presents a greater hazard, they may implement a written, site-specific fall protection plan. As a result of the December 16, 2010 compliance guidance, Fed-OSHA began the process of reviewing all corresponding state plan standards, policies and procedures covering fall protection in residential construction. This process was performed to ensure that state plan residential fall protection standards conformed to their counterpart Fed-OSHA construction fall protection standards.

In a letter to the Division of Occupational Safety and Health (Cal/OSHA) dated May 28, 2013<sup>4</sup>, Fed-OSHA expressed concern over the non-conformity of California's residential fall protection standards with those of Fed-OSHA and asserted that California's 15 foot trigger heights for residential construction, and varying trigger heights for residential roofing operations, did not provide California workers with protection from falls equal to that provided by Fed-OSHA standards specifying a six foot trigger height. Hence the necessity for California to lower its residential construction fall protection trigger height from their present trigger heights to six feet.

In response to Fed-OSHA concerns, the Occupational Safety and Health Standards Board (Board) staff convened an advisory committee meeting on November 3 and 4, 2015 to discuss California versus Fed-OSHA residential fall protections standards in terms of their effectiveness and the necessity to address any issues that may merit amendments to title 8 residential fall protection standards. Findings from this meeting were presented to the Board at their January 21, 2016 Business meeting in Costa Mesa, California. At that time the Board concluded that action to address the trigger height issue in residential construction was needed and directed staff to *"...treat as high priority and work expeditiously with stakeholder involvement, to assure California's regulatory compliance with Federal construction industry fall protection standards."*

In response to the Board's directive, Board staff convened an advisory committee on April 11, 2016, which reached consensus with Cal/OSHA and Fed-OSHA participation on proposed amendments to CSO sections 1671.1, 1716.2, 1730 and 1731. This rulemaking proposal reflects

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<sup>3</sup> Fed-OSHA. Compliance Guidance for Residential Construction.

<https://www.osha.gov/enforcement/directives/std-03-11-002>

<sup>4</sup> Letter from Fed-OSHA to Cal/OSHA Chief, dated May 28, 2013.

<https://www.dir.ca.gov/oshsb/documents/Federal-Fall-Protection-Trigger-Heights-for-Residential-Construction-AC-Letter-5-28-13.pdf>

the committee's consensus and addresses the central issue consisting of a reduction in the fall protection trigger heights for residential construction and residential roofing from their present trigger heights to six feet consistent with the Fed-OSHA standard. The proposal also addresses new and amended residential framing and roofing definitions and a reorganization/clarification of the roofing standards with regard to roof slope and required fall protection. The proposal expands its scope to include custom home construction as well as production style housing, roofing and re-roofing operations. Furthermore, the proposal addresses Fed-OSHA's concern over the non-conformity of California's residential fall protection plan, namely that it should clarify to employers that they must be able to demonstrate that the use of conventional fall protection measures is infeasible or presents a greater hazard before implementing a site-specific fall protection plan.

### **Section 1671.1. Fall Protection Plan.**

This section contains requirements which pertain to the development and administration of fall protection plans at construction jobsites. Subsection (a) is essentially a scope and application subsection and explains the circumstances when a fall protection plan may be used in lieu of conventional fall protection methods. Amendments are proposed to clarify, consistent with Fed-OSHA standards, when a fall protection plan may be used, and make clear that the employer has to demonstrate that the use of conventional fall protection systems is infeasible, as opposed to impractical as currently worded. This is necessary to address Fed-OSHA's concern and ensure that section 1671.1 will be commensurate with the Fed-OSHA standard, as required by Labor Code section 142.3.

In addition, an informative Note is proposed, which is verbatim of Fed-OSHA fall protection plan language, to clarify that the employer has the burden of establishing that conventional fall protection methods are not feasible or create a greater hazard, prior to implementing a fall protection plan. The proposed amendments are necessary to ensure that California standards are commensurate with those of Fed-OSHA.

### **Section 1716.2. Wood and Light Gage Steel Frame Construction, Residential/Light Commercial.**

This existing section addresses standards pertaining to the framing of residential and light commercial structures which include, but are not limited to: scope and application, definitions, construction methods during various stages of construction such as raising walls, stabilization of structures, working on floors and walking/working surfaces and the use of fall protection at elevations 15 feet above the level below.

Amendments are proposed to change the section title to delete the words "Residential/Light Commercial" at the end of the title for replacement by the words *Residential-type Framing Activities* at the beginning of the title consistent with the amended content of section 1716.2.

An editorial amendment is proposed for subsection (a) to clarify that this standard does indeed include framing activities associated with light commercial structures. Light commercial framing involves wood frame construction materials and methods identical to residential-type construction. This is necessary to ensure the regulated public understands that framing activities associated with light commercial structures are included in the scope, as well as ensure employees working in residential and light commercial operations will be protected from falls when working at elevations greater than six feet, in conformance with the Fed-OSHA standard.

Further amendments are proposed to the definition of residential-type framing activities in subsection (b)(7) to add Fed-OSHA language from STD 03-11-002 defining residential-type construction in terms of the use of structural steel and clarifying that residential-type framing activities include commercial structures that use wood frame construction materials and methods. These proposed clarifications are necessary to ensure consistency with Fed-OSHA residential construction enforcement policy.

It is also proposed to delete subsection (b)(10) which defines slide guards, as the use of such devices as a means of fall protection is not permitted, and renumber the remaining Definitions subsections for title 8 format consistency. These proposed amendments are necessary to raise awareness among employers that they are required to use a method of positive fall protection, and ensure California's framing standards are commensurate with comparable Fed-OSHA standards.

Amendments are proposed for subsection (e)(1) with regard to lowering the fall protection trigger height from 15 feet to six feet for employees working on top plate, joists and roof structure during framing. The proposed amendment will require employers to provide positive fall protection when employees work above the lower, six foot, trigger height, consistent with what is required by Fed-OSHA in 29 CFR section 1926.501(b)(13). In addition, amendments are proposed to list each type of permissible fall protection method to ensure the employer knows what is explicitly required. Additional language is proposed to clarify to the employer that the use of fall protection plans is permitted only when the employer has demonstrated that the use of conventional methods is infeasible. Amendments are also proposed to delete the phrase that mentions CSO article 24, to address Fed-OSHA's concern of referencing less protective fall protection measures. These proposed amendments are necessary to ensure complete protection for those engaged in residential framing and to render California standards commensurate with those of Fed-OSHA for these issues.

Amendments are proposed to delete subsection (A) of the exception to (e)(1) pertaining to walking/working on joists, rafters or roof trusses instead of using conventional fall protection as it is not commensurate with Fed-OSHA standards and the requirement to use fall protection.

Amendments are proposed to delete subsection (B) of the exception to (e)(1) pertaining to joists laid upon top plates, 24 inches on center, as it is not commensurate with Fed-OSHA standards and the requirement to use fall protection.

Amendments are proposed for subsection (f) to lower the fall protection trigger height from 15 feet to six feet for floor work and other walking surfaces and are necessary to ensure California fall protection standards conform to the counterpart Fed-OSHA residential construction language. The proposed amendment will require the employer to implement a method of positive fall protection at a reduced working elevation. Amendments are also proposed to relocate the phrase “the surrounding grade or floor level below” earlier in the subsection for clarity. In addition, amendments are proposed to list each type of permissible fall protection method, to ensure the employer knows what is explicitly required. Additional language is proposed to clarify to the employer that the use of fall protection plans is permitted only when the employer has demonstrated that use of conventional methods is infeasible. Amendments are also proposed to delete the phrase that mentions CSO article 24, to address Fed-OSHA’s concern of referencing less protective fall protection measures. These proposed amendments are necessary to ensure complete protection for employees working on floors and other walking surfaces six feet or more above lower levels, and to render California standards commensurate with those of Fed-OSHA for these issues.

A new subsection (f)(1) is proposed to be added following (f) to clarify to the employer that fall protection requirements for work around floor, roof or wall openings are found in CSO section 1632. This amendment is necessary to address temporary floor and roof opening fall hazards by such means as protective covers and to ensure the employer knows which types of fall protection measures must be utilized.

Amendments are proposed for subsection (g)(1) pertaining to work on starter board, roof sheathing and fascia board, to clarify to the employer that the employees are to be protected at all times from falls to the surrounding grade or level below when working at elevations above six feet. In addition, amendments are proposed to list each type of conventional fall protection method, to ensure the employer knows what is explicitly required. Additional language is proposed to clarify to the employer that the use of fall protection plans is permitted only when the employer has demonstrated that the use of conventional methods is infeasible. Amendments are also proposed to delete the phrase that mentions CSO article 24, to address Fed-OSHA’s concern of referencing less protective fall protection measures. These proposed amendments are necessary to ensure complete protection for employees engaged in starter board, roof sheathing and fascia board work at six feet or more above the surrounding grade or floor level below, and to render California standards commensurate with those of Fed-OSHA fall protection standards.

Further amendments are proposed to delete subsection (g)(1)(A) relating to a 15 foot trigger height, (g)(1)(B) which refers to sloped roofs greater than 7:12, and an exception to (g)(1)(B)

which permits the use of slide guards in lieu of fall protection. These proposed amendments are necessary to ensure consistency with other amendments in this proposal, associated with trigger height, roofing and the use of slide guards, and to be commensurate with Fed-OSHA fall protection standards.

It is also proposed that subsection (g)(2) be deleted, as it allows workers to forgo conventional fall protection methods contrary to Fed-OSHA standards. This deletion is necessary to ensure consistency with other amendments in this proposal, and compliance with Fed-OSHA fall protection standards.

Existing subsection (g)(3) is editorially renumbered as (g)(2) consistent with title 8 format. Additional revisions are proposed to add language in the new subsection (g)(2) to address the requirement to use conventional means of fall protection to protect employees working in the gable end truss or rafter at six feet or more above the surrounding grade or floor level below, and to list each type of conventional fall protection method allowed. Additional amendments are proposed to clarify to the employer that the use of fall protection plans is permitted only when the employer has demonstrated that the use of conventional methods is infeasible. Further amendments are proposed to delete the phrase that mentions CSO article 24, to address Fed-OSHA's concern of referencing less protective fall protection methods. These amendments are necessary to ensure complete protection for those working in the gable end truss or rafter and to render California standards commensurate with Fed-OSHA fall protection standards.

The exception to existing subsection (g)(3) is proposed to be deleted, as it is inconsistent with Fed-OSHA residential fall protection standards, which do not contain such an exception. California proposes to not allow employers to bypass residential fall protection requirements for employees working at or above six feet by use of the short duration exception. The proposed amendment is necessary to ensure employees will be protected from falls in accordance with the six foot trigger height.

Amendments are proposed for subsection (i) which contains requirements for the use of scaffolds during residential-type construction. Subsection (i)(2) pertains to the use of scaffolds and permits the omission of the interior railing when the scaffold is placed next to a wall to install joists, rafters or trusses under certain specified conditions relating to scaffold platforms that are 15 feet or less from the interior floor below. It is proposed that the 15 foot trigger height be changed to six feet. The proposed amendment is necessary to avert confusion and ensure that subsection (i)(2) is consistent with the rest of section 1716.2 which is proposed to be based upon a six foot fall protection trigger height rather than 15 feet. The proposed amendments are necessary to ensure that employees are protected from a fall whenever they work at elevations at six feet or higher.

### **Section 1730. Roof Hazards.**

This section contains standards that address roof hazards associated with the roofing and non-residential structures which include but are not limited to: fall protection methods as a function of roof slope and the hazards associated with the use of equipment on the roof.

Subsection (a) refers the employer to sections 1509 and 1510, regarding accident and injury prevention. A sentence for subsection (a) is added for clarity to inform the employer that section 1730 does not apply to residential-type roofing activities defined in section 1731. This amendment is necessary to clarify and differentiate to the employer the scope and application of the two title 8 roofing safety orders; one commercial, one residential.

Further amendments are proposed to convert the Note found after subsection (f), which determines how the employee's working measurement is to be taken, into a new subsection (g). This proposed revision makes clear to employers how the employee's height working measurement is to be taken, and deletes the words "lowest edge of the roof or eaves", which could cause misunderstandings. The proposed amendments are necessary to clarify to the employer how this critical measurement is to be taken, and fall protection is to be implemented, consistent with the comparable Fed-OSHA standard.

It is also proposed to delete the exception to section 1730, which follows revised subsection (g), since this clarification has been incorporated into the proposed amendments of subsection (a). This deletion is necessary to ensure consistency with other amendments in this proposal and compliance with Fed-OSHA fall protection standards.

### **Section 1731. Roof Hazards - New Production-Type Residential Construction.**

This section contains standards that address hazards associated with residential-type roofing activities. Amendments are proposed to simplify and align the title of this section with the proposed amendments described below, which address both new residential and existing residential roofing operations. The section title will be reworded to simply read: "Residential-type Roofing Activities". The proposed amendment is necessary for consistency with the section 1716.1 title which refers to residential-type framing activities.

Subsection (a) pertains to Scope and Application. Subsection (a)(1) applies to work on new production-type residential construction with roof slopes 3:12 or greater. Amendments are proposed to reword existing subsection (a)(1) to read that it pertains to residential-type roofing activities regardless of roof slope and whether it is new production-type residential construction. Amendments are also proposed to delete subsection (a)(1) and make the proposed text part of subsection (a). The proposed amendment is necessary to ensure the California standard conforms with the Fed-OSHA standard which pertains to all types of residential roofing operations: new, existing and regardless of roof slope.

It is further proposed to delete existing subsection (a)(2), which states that “this section does not apply to custom-built homes, re-roofing operations, roofing replacements or additions on existing dwelling units”, since the comparable Fed-OSHA standards have no such limitations. The proposed amendment is necessary to ensure that the California standard conforms to Fed-OSHA standards.

It is also proposed to delete the Note following existing subsection (a)(2), which states “For other roofing operations and slopes less than 3:12, see Section 1730”, for consistency with the proposed amendments of this section. The proposed amendment is also necessary to ensure employers are clear about the amended scope applying to all forms of residential roofing activities without regard to slope as the amended section 1731 would apply to all residential roofing activities.

### **Subsection (b) Definitions.**

Existing subsection (b) contains six definitions for terms used in section 1731. The definitions for “custom-built home”, “eaves”, “production-type residential construction”, and “roof work” are proposed to be deleted. Deletion of the terms custom-built home and production-type residential construction are necessary to ensure that it is clear to the employer that the amended section 1731 applies to all types of residential construction activities. The definition of “eaves” is proposed to be deleted since the term is no longer used in this section. The definition of “roof work” is proposed to be deleted but consolidated under the new proposed definition of “residential-type roofing activities” a new term proposed for subsection (b) which defines roofing and re-roofing work for various types of residential habitation as well as the other structures called out in section 1716.2. The proposed definition includes various other residential roofing operations including, but not limited to, loading and installation of roofing materials. These proposed amendments are necessary to ensure that California’s residential roofing standards are inclusive and hence commensurate with the comparable Fed-OSHA standard.

### **Subsection (c) Fall protection for roofing work.**

Existing subsection (c) contains standards segregated into two subsections (c)(1) and (c)(2) that are designed to prevent falls from heights during roofing activities. They are based upon the slope (steepness) of the roof and the working elevation above the grade or level below. The slope of the roof determines the actions employers are to take to protect their employees from a fall when they work at elevations above 15 feet which include, but are not limited to: personal fall protection, guardrails and scaffolds. Amendments are proposed to create a new subsection (c)(1) to address protecting employees against falling from roofs with slopes 0:12 up to and including 7:12, and reduce the trigger height to when the employee fall distance is six feet or more above the grade or level below. In addition, amendments are proposed to list each



type of conventional fall protection method to help employers understand what is explicitly required, yet give employers choices on how to ensure compliance. These amendments are necessary to protect employees from a fall from elevation, and ensure the employer understands that they is to use any one or more of any combination of the listed conventional fall protection methods. Additional language is proposed to clarify to the employer that the use of fall protection plans is permitted only when the employer has demonstrated that the use of conventional fall protection methods is infeasible. These proposed amendments are necessary to ensure that California's residential roofing standards conform with Fed-OSHA standards.

Further amendments are proposed to delete existing subsection (c)(1)(A) through (c)(1)(F) pertaining to the types of fall protection to be used according to a roof slope greater than 3:12, which is no longer needed given the proposed amendments to subsection (c)(1) which addresses fall protection and roof slopes from 0:12 to 7:12 (inclusive of 3:12). These proposed amendments and are necessary for clarity and to ensure title 8 residential roofing standards are commensurate with Fed-OSHA standards in terms of the use of conventional fall protection and fall protection plans.

Subsection (c)(2) addresses roof slopes greater than 7:12. Amendments are proposed to replace the term "steeper" with "greater", and clarify that this paragraph addresses roof slopes greater than 7:12. Further amendments are proposed to clarify that personal fall protection is to be used as prescribed in subsection (c)(1) regardless of height (essentially a zero trigger height).

These proposed amendments are necessary to provide continuity by continuing to permit the employer selective discretion as far as which fall protection method(s) to use per their site and construction circumstances, thereby ensuring that the most effective method is utilized or combination of methods to prevent employee falls. Reorganizing the slope ranges into two distinct groups conforms to the recommendation of the advisory committee and are necessary to simplify the proposed standard by aiding the employer in recognizing when and what types of fall protection actions need to be taken according to their situation and provide conformity with Fed-OSHA standards.

**Subsection (e).**

Amendments are proposed to add a new subsection (e) following subsection (d), which explains and clarifies to the employer how the roof-to-ground measurement is to be taken. In addition, these proposed amendments will clarify that the height of parapets shall not be included in the roof height measurement. These proposed amendments are necessary to clarify to the employer how this critical measurements is to be taken and how fall protection is to be implemented, consistent with California standards, proposed amendments in section 1730, and comparable Fed-OSHA standards.

### **REFERENCE TO COMPARABLE FEDERAL REGULATION**

The Board is proposing this rulemaking action pursuant to Labor Code section 142.3, which mandates the Board to adopt regulations at least as effective as Fed-OSHA regulations addressing occupational safety and health issues. This proposed rulemaking action of the Board conforms to the residential construction fall protection requirements of Fed-OSHA.

In conformance with Government Code section 11346.9(c), the Board provides the following information. Fed-OSHA promulgated regulation(s) addressing fall protection in the construction industry on August 9, 1994 as 29 CFR, subpart M, sections 1926.500-1926.503. The Board is relying on the explanation of the provisions of the Fed-OSHA regulation in Federal Register, Volume 59, No. 152, beginning on page 40,672, Safety Standards for Fall Protection in the Construction Industry, August 9, 1994 as the justification for the Board's proposed rulemaking action.

### **TECHNICAL, THEORETICAL AND/OR EMPIRICAL STUDIES, REPORTS OR DOCUMENTS RELIED ON BY THE BOARD**

1. Regulatory Impact and Regulatory Flexibility Analysis of Subpart M - Fall Protection (29 CFR Part 1926), U.S. Department of Labor (US-DOL) Occupational Safety and Health Administration (Fed-OSHA), Office of Regulatory Analysis, July 20, 1994.
2. Letter with attachments constituting the post April 11, 2016, OSHSB Residential Fall Protection Advisory Committee mail out, dated May 23, 2016.  
Letter: <https://www.dir.ca.gov/oshsb/documents/Federal-Fall-Protection-Trigger-Heights-for-Residential-Construction-2nd-AC-ltrfrmMikeM.pdf>  
Updated Advisory Committee Roster: <https://www.dir.ca.gov/oshsb/documents/Federal-Fall-Protection-Trigger-Heights-for-Residential-Construction-2nd-AC-updatedroster.pdf>  
Advisory Committee Attendance Sheets  
Advisory Committee Minutes: <https://www.dir.ca.gov/oshsb/documents/Federal-Fall-Protection-Trigger-Heights-for-Residential-Construction-2nd-AC-minutes.pdf>  
Revised Proposal: <https://www.dir.ca.gov/oshsb/documents/Federal-Fall-Protection-Trigger-Heights-for-Residential-Construction-2nd-AC-revproptxt.pdf>
3. Federal Register, Volume 59, Issue No. 152, Tuesday, August 9, 1994, Safety Standards for Fall Protection in the Construction Industry (120 pages).  
<https://www.govinfo.gov/content/pkg/FR-1994-08-09/html/94-19000.htm>
4. Letter dated February 4, 2015 from Mr. Ken Nishiyama Atha of the US-DOL, Fed-OSHA to the Board. <https://www.dir.ca.gov/oshsb/documents/Federal-Fall-Protection-Trigger-Heights-for-Residential-Construction-AC-Letter-2-4-2015.pdf>
5. Letter dated May 28, 2013 from Mr. David Shiraishi, US-DOL, Fed-OSHA, Region IX to the Division of Occupational Safety and Health.  
<https://www.dir.ca.gov/oshsb/documents/Federal-Fall-Protection-Trigger-Heights-for-Residential-Construction-AC-Letter-5-28-13.pdf>

6. Fed-OSHA Instruction STD 03-11-002, Compliance Guideline for Residential Construction, published December 16, 2010, effective June 16, 2011.  
<https://www.osha.gov/enforcement/directives/std-03-11-002>
7. Fed-OSHA Instruction STD 03-00-001, a plain language revision of STD 3.1 Interim Fall Protection Compliance Guidelines for Residential Construction, dated June 18, 1999.  
<https://www.osha.gov/enforcement/directives/std-03-00-001>
8. E-mail transmission from Mr. Kevin Bland, Ogletree, Deakins, Nash, Smoak and Stewart P.C. to the Board, regarding cost impact data, dated June 10, 2016.
9. E-mail transmission from Mr. Bob Raymer P.E., California Building Industries Association to the Board, regarding cost impact data, dated June 10, 2016.
10. E-mail transmission from Mr. Bruce Wick, California Professional Association of Specialty Contractors (CALPASC) to Mr. Kevin Bland and Mr. Bob Raymer, regarding cost impact data-roofing, dated June 7, 2016.
11. E-mail transmission from Dr. William Callahan, Association of Roofing Contractors of the Bay Area Counties to the Board, regarding cost impact data-roofing, dated June 15, 2016.
12. Letter from Mr. James Wulff, for Ms. Barbara Yee Goto, Regional Administrator, Fed-OSHA to the Board, regarding proposed amendments to California's Residential Fall Protection standard, dated August 24, 2016.
13. E-mail transmission from Ms. Amber Rose, Fed-OSHA Region IX to the Board, regarding proposed CSO amendments, Residential Fall Protection, dated September 22, 2016.
14. Federal Register, Volume 80, Issue No. 25. Rejection of Arizona's Standard for Fall Protection in residential construction, published February 6, 2015.  
<https://www.osha.gov/laws-regs/federalregister/2015-02-06>
15. The Center for Construction Research and Training (CPWR). The Construction Chart Book, Sixth Edition. Chart 44b. Fatal falls to a lower level in construction, by height of fall, 2011-2015 total. February 2018. [https://www.cpwr.com/wp-content/uploads/publications/The\\_6th\\_Edition\\_Construction\\_eChart\\_Book.pdf](https://www.cpwr.com/wp-content/uploads/publications/The_6th_Edition_Construction_eChart_Book.pdf)
16. OSHSB Federal Fall Protection Trigger Heights for Residential Construction Advisory Committee meetings.  
(November 3, 2015) Advisory Committee Roster:  
<https://www.dir.ca.gov/oshsb/documents/Federal-Fall-Protection-Trigger-Heights-for-Residential-Construction-AC-Roster.pdf>, Advisory Committee Attendance Sheets and Minutes: <https://www.dir.ca.gov/oshsb/documents/Federal-Fall-Protection-Trigger-Heights-for-Residential-Construction-AC-minutes.pdf>  
(April 11, 2016) Advisory Committee Roster:  
<https://www.dir.ca.gov/oshsb/documents/Federal-Fall-Protection-Trigger-Heights-for-Residential-Construction-2nd-AC-updatedroster.pdf>, Advisory Committee Attendance Sheets and Advisory Committee Minutes:  
<https://www.dir.ca.gov/oshsb/documents/Federal-Fall-Protection-Trigger-Heights-for-Residential-Construction-2nd-AC-minutes.pdf>

17. US-DOL, Fed-OSHA Region IX, FY 2019 California Comprehensive Federal Annual Monitoring Evaluation (FAME) Report. California Department of Industrial Relations. Evaluation Period: October 1, 2018 – September 30, 2019. Initial Approval Date: May 1, 1973. Page 23 and 27 of 85. [https://www.osha.gov/sites/default/files/2020-07/california\\_2019.pdf](https://www.osha.gov/sites/default/files/2020-07/california_2019.pdf)
18. US-DOL, Fed-OSHA, OSHA Technical Manual (OTM), Section V: Chapter 4, Fall Protection in Construction. Accessed June 20, 2022. <https://www.osha.gov/otm/section-5-construction-operations/chapter-4>
19. California Department of Finance (DOF) California Economic Governor’s Budget Forecast 2022-23. November 2021 Economic Forecasts, U.S. and California.
20. Fed-OSHA, OSHA Guidance Document, Fall Protection in Residential Construction. <https://www.osha.gov/sites/default/files/2020-07/guidance.pdf>
21. DOF Economic Forecasts, U.S. and California. Consumer Price Index Forecast. Calendar Year Averages, May Revision Forecast. Accessed April 2022.
22. Barlet, G., Greenberg, R., Bunting, J. Highlighted Findings from an ASSP/CPWR Survey on Underlying Causes of Falls from Heights, online publication dated August 2022. [https://www.cpwr.com/wp-content/uploads/RR-falls\\_experience\\_survey.pdf](https://www.cpwr.com/wp-content/uploads/RR-falls_experience_survey.pdf)
23. Roland-Holst, D., Evans, S., Heft-Neal, S. Berkeley Economic Advising and Research (BEAR) LLC. Standardized Regulatory Impact Assessment (2019 SRIA) prepared for California Department of Industrial Relations of Title 8, Residential Fall Protection Standards. March 2019. [https://dof.ca.gov/wp-content/uploads/sites/352/Forecasting/Economics/Documents/SRIA\\_Fall-Protection DIR 5-29-19.pdf](https://dof.ca.gov/wp-content/uploads/sites/352/Forecasting/Economics/Documents/SRIA_Fall-Protection_DIR_5-29-19.pdf)

The Board’s rulemaking files on the proposed action are open for public inspection BY APPOINTMENT Monday through Friday from 8:00 a.m. to 4:30 p.m. at the Board office located at 2520 Venture Oaks Way, Suite 350, Sacramento, California. Appointments can be scheduled via email at [oshsb@dir.ca.gov](mailto:oshsb@dir.ca.gov) or by calling (916) 274-5721.

### **PETITION**

This proposal was not the result of a petition.

### **ADVISORY COMMITTEE**

This proposal was developed with the assistance of an advisory committee. (A list of advisory committee members, attendance sheets, and minutes are included as Documents Relied Upon.)

### **FIRE PREVENTION STATEMENT**

This proposal does not include fire prevention or protection standards. Therefore, approval of the State Fire Marshal pursuant to Government Code section 11359 or Health and Safety Code section 18930(a)(9) is not required.

### **SPECIFIC TECHNOLOGY OR EQUIPMENT**

This proposal will not mandate the use of specific technologies or equipment.

### **STANDARDIZED REGULATORY IMPACT ASSESSMENT (SRIA)**

California Labor Code section 142.3 requires California occupational safety and health regulations to be at least as effective as Fed-OSHA standards. The Board is proposing to amend fall protection rules for residential construction activities. The proposed changes would lower the height at which fall protection is required for residential framing from 15 feet to six feet and for residential roofing from 15 feet to six feet to conform to Fed-OSHA's six foot trigger height for residential construction.

The 2019 SRIA conducted by BEAR LLC provides an economic analysis of the Board's proposed revisions to the residential framing and roofing fall protection standards. The analysis identifies the affected industries, potential direct compliance costs for each industry, and expected direct benefits from improved worker safety.

The proposed regulation is expected to primarily affect firms and employees in two industries: residential framing and residential roofing. Under current regulations, for most residential framing and roofing activities, employees working on a single-story dwelling, or the first story of a multi-story dwelling, are not required to have fall protection. The compliance costs discussed in the 2019 SRIA are the incremental costs of compliance for roofing and framing activities conducted at heights between six feet and 15 feet, since work done at heights 15 feet and above are already covered under the current California rules. Residential framing and roofing firms would be affected primarily by incurring increased compliance costs. Direct compliance costs identified in the 2019 SRIA were revised to account for inflation (using Department of Finance (DOF) Consumer Price Index for All Urban Consumers (CPI-U) forecast and long term projections values) and are estimated to be on average \$84 million per year for 2023 and \$104 million per year for 2030. The updated direct benefits are estimated to be approximately \$84 million per year<sup>5</sup>.

### **The Creation or Elimination of Jobs in the State.**

The proposed regulation is expected to primarily affect firms and employees in two industries: residential framing and residential roofing. Businesses engaged in residential roofing and

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<sup>5</sup> Roland-Holst, D., Evans, S., Heft-Neal, S. Berkeley Economic Advising and Research (BEAR) LLC. Standardized Regulatory Impact Assessment (2019 SRIA) prepared for California Department of Industrial Relations of Title 8, Residential Fall Protection Standards. March 2019. [https://dof.ca.gov/wp-content/uploads/sites/352/Forecasting/Economics/Documents/SRIA\\_Fall-Protection\\_DIR\\_5-29-19.pdf](https://dof.ca.gov/wp-content/uploads/sites/352/Forecasting/Economics/Documents/SRIA_Fall-Protection_DIR_5-29-19.pdf)

framing activities will be required to provide fall protection to all employees working at heights greater than six feet above the surrounding level, in conformance with Fed-OSHA's residential construction regulations. According to Fed-OSHA, California is the only state in the nation currently not complying with the mandate to provide fall protection at heights greater than six feet. The current California standards require fall protection only for heights of 15 feet and above. No jobs creation or elimination is expected among employees working in roofing and framing activities due to decreasing the trigger height for providing fall protection from 15 feet down to six feet. While the point estimate of jobs lost is zero, the range is up to 84 full-time equivalent (FTE) lost economy wide (or 0.0005% of total nonfarm jobs) if all 84 FTE translate to full-time jobs lost. However, businesses may instead reduce hours of employees without layoffs. Workers in the residential framing and roofing industry would be affected primarily through the reduction in fall-related fatalities and non-fatal injuries.

#### **The Creation of New Businesses or the Elimination of Existing Businesses in the State.**

Although the proposed amendments to the fall safety standards will apply to residential framing operations (North America Industry Classification System (NAICS) code 238130), and roofing/re-roofing operations (NAICS code 238160) in California, no business loss or creation is expected from lowering the requirement to six feet. The amendments will provide safety equivalent to that provided by the comparable Fed-OSHA regulation as it applies to residential construction and related roofing operations.

According to the 2019 SRIA, compliance costs in the residential construction sector are expected to have a negligible impact on the California economy.

#### **The Expansion of Businesses Currently Doing Business in the State.**

Businesses engaged in residential roofing and framing activities are already required to provide fall protection. The proposed regulation could create new demand for scaffolding and harness systems, however, existing firms are likely to absorb any new demand.

#### **The Competitive Advantages or Disadvantages for Businesses Currently Doing Business in the State.**

The proposed amendments will require that businesses engaged in residential roofing and framing activities provide fall protection to all employees working at heights of six feet or greater, in conformance with Fed-OSHA's residential construction regulations. In addition, the current Cal/OSHA standards require fall protection for heights of 15 feet and above.

Since all residential roofing and framing activities in the state are covered by the proposed amendments, the Board does not expect the proposed regulation to put California businesses

at a competitive disadvantage relative to framing and roofing firms outside of the state. All companies seeking to do business in California would incur, on average, identical costs.

Additionally, the slight adverse macroeconomic impacts observed in the 2019 SRIA, assume that the incremental fall protection costs in residential construction are passed along to consumers and thus raise the prices of these services marginally.

### **The Increase or Decrease of Investment in the State.**

The proposed amendments will require that businesses engaged in residential roofing and framing activities provide fall protection to all employees working at heights of six feet or greater, in conformance with Fed-OSHA's residential construction regulations. The current Cal/OSHA standards require fall protection for heights of 15 feet and above, so the proposed regulation is not expected to have a considerable impact on the increase or decrease of investment in the state.

### **The Incentives for Innovation in Products, Materials, or Processes.**

The proposed regulation is not expected to have a considerable impact on innovation in the state. It is plausible that firms will find more innovative ways to meet the standards at lower costs, thus slightly reshaping how framing and roofing activities under 15 feet are conducted. It is also plausible that the increased demand for fall protection equipment (both scaffolding and harness systems) could induce some innovation in those fields, but it is difficult to predict a priori what the innovation, if any, would look like. It is also impossible to say if such innovations would actually represent an enhancement to worker safety and be found to be acceptable for use as a true fall protection method by Cal/OSHA.

Another possible incentive would be a reduction in the employer's workers compensation (WC) rates. All employers are required under the California Labor Code to purchase WC insurance for their employees. WC rates are influenced by metrics such as the experience modification or x-mod (the x-mod is a loss-based comparison of a given employers WC claims experience to other employers of a similar size operating in the same business and is used to tailor insurance costs to the characteristics of a given business). Any reduction brought about by the proposal resulting in a reduction in accident/fatality rates would have the effect of lowering the employer's x-mod and the employer's WC premium.

A safer residential construction workplace contributes to improved worker health, morale, and may increase productivity. The economic implications of a fall, injury or fatality upon a California residential framing and roofing business can be very significant. The avoidance of fatalities and severe injuries due to falls, will save money, which will in turn benefit California businesses and residents.

### **Costs to Employers to Comply with Proposed Regulations.**

The proposed regulation is expected to primarily affect firms and employees in two industries: residential framing and residential roofing. Under current regulations, for most residential framing and roofing activities, workers working on a single-story dwelling, or the first story of a multi-story dwelling, are not required to have fall protection. The compliance costs discussed in the 2019 SRIA are the incremental costs of compliance for roofing and framing activities conducted at heights between six feet and 15 feet, since work done at heights 15 feet and above are already covered under the current Cal/OSHA rules. These estimates include costs necessary to provide workers additional fall safety protections, including the costs of harness systems, scaffolding, and fall protection plans.

The California legislature defines small businesses as businesses that have fewer than 100 employees, are not dominant in their field, and are independently owned and operated. The proposed amendments to the residential fall protection standards are expected to primarily affect residential framing operations (NAICS code 238130), and roofing/re-roofing operations (NAICS code 238160) in California. Both of the industries are predominately comprised of small businesses. According to U.S. Census Bureau data, in 2015 95.3% of framing contractors and 99.1% of roofing contractors, respectively, had fewer than 100 employees. This suggests that small businesses will bear nearly all of the compliance costs of the proposed regulation.

Direct compliance costs identified in the 2019 SRIA were revised to account for inflation (using CPI-U forecast and long term projections values) and are estimated to be on average \$84 million per year for 2023 and \$104 million per year for 2030. Compliance costs for residential framers are expected to range from \$54-\$66 million per year. Compliance costs for residential roofers are expected to range from \$30.5-\$38 million per year. Costs vary primarily due to differences in assumed growth rates of the residential construction sector.

### **Fiscal Impacts to Local and State Government.**

The proposed regulations are not expected to have a fiscal impact on state and local governments. State and local governments both own and develop property for administrative use. However, these new properties are neither directly built nor overseen/managed while being built. Representatives from California Department of General Services (DGS) Real Estate Division – Project Management Development Branch and California Department of Housing and Community Development (HCD) stated that they either go through a bidding process to hire a contractor or third party inspectors to develop the property or check for code violations.



### **Enforcement Costs.**

Under current conditions there is no reason to expect that the proposed regulations will have a fiscal impact on the implementing agency. Cal/OSHA will implement the proposed regulations using currently approved resources and staffing levels.

### **The Benefits of the Regulations, Including, but not Limited to, Benefits to the Health, Safety, and Welfare of California Residents, Worker Safety, Environment and Quality of Life, and any Other Benefits Identified by the Agency.**

The Board's proposal to lower the trigger height at which fall protection is required for residential construction is expected to generate both benefits in terms of improved worker health, safety, and welfare, as well as benefits for residential roofing and framing contractors. The benefits of the proposed regulation are the reduction in fatalities and injuries at heights below the current trigger height and above the proposed six-foot trigger height. Roofing and framing workers would be the primary beneficiaries of this proposed regulatory change.

The proposed amendments are also anticipated to provide benefits to businesses by a reduction in accident/fatality rates as well as a reduction in health care expenditures and lower WC rates.

The proposed amendments will also allow the state of California to comply with Labor Code section 142.3, which requires that California have a system of occupational safety and health regulations that at least mirror the equivalent Fed-OSHA regulations, and avoid the specter of Fed-OSHA imposing concurrent jurisdiction (as the State of Arizona faced in 2015)<sup>6</sup>.

The additional compliance costs are the incremental costs necessary to provide workers additional fall safety protections, including the costs of harness systems, scaffolding, and fall protection plans. These costs are expected to accrue to framing and roofing contractors, and ultimately would be passed along to consumers.

Incentives to innovate new products, materials or processes could help firms find more innovative ways to meet the standards at lower costs, thus slightly reshaping how framing and roofing activities under 15 feet are conducted.

A safer residential construction workplace contributes to improved worker health, morale, quality of life, and may increase productivity. The economic implications of a fall, injury or fatality upon a California residential framing and roofing business can be very significant. The

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<sup>6</sup> Federal Register, Volume 80. Issue No. 25. Friday February 6, 2015. Rejection of Arizona's Standard for Fall Protection in residential construction. <https://www.osha.gov/laws-regs/federalregister/2015-02-06>

avoidance of fatalities and severe injuries due to fall, will save money, which will in turn benefit California residents.

No significant environmental impact is anticipated from the proposed action.

**EVIDENCE SUPPORTING FINDING OF NO SIGNIFICANT STATEWIDE ADVERSE ECONOMIC IMPACT DIRECTLY AFFECTING SMALL BUSINESSES**

The Board has determined that the proposed amendments may affect small businesses, primarily independent residential framers and roofers, and there will be a cost impact attributable to the reduction in fall protection trigger heights from their present thresholds.

Direct compliance costs identified in the 2019 SRIA were revised to account for inflation (using CPI-U forecast and long term projections values) and are estimated to be on average \$84 million per year for 2023 and \$104 million per year for 2030. Compliance costs for residential framers are expected to range from \$54-\$66 million per year. Compliance costs for residential roofers are expected to range from \$30.5-\$38 million per year. Costs vary primarily due to differences in assumed growth rates of the residential construction sector. These slight adverse economic impacts assume that the incremental fall protection costs in residential construction are passed along to consumers and thus raise the prices of framing and roofing operation services marginally.

The proposed amendments are also anticipated to provide benefits to businesses by a reduction in accident/fatality rates as well as a reduction in health care expenditures and lower WC rates.

**REASONABLE ALTERNATIVES TO THE PROPOSAL AND THE BOARD'S REASONS FOR REJECTING THOSE ALTERNATIVES**

The Board considered two regulatory alternatives, a less stringent alternative and a more stringent alternative. These alternative options were identified with the assistance of the advisory committee that convened for two separate meetings: November 3 through November 4, 2015 and April 11, 2016.

First, a more stringent regulatory alternative (stricter) considers an alternate approach to mandating the trigger height requirement. Instead of allowing framing and roofing contractors the option to utilize either scaffolding or personal fall protection equipment, the stricter approach would mandate scaffolding for all work that would be covered under the new regulations. Therefore, the 2019 SRIA assumed that employers would comply with the lower trigger height requirement by using more expensive scaffolding systems rather than personal fall protection systems (i.e., harness systems).

However, the Board rejected the stricter alternative because the benefits would be similar to those estimated under the proposed regulation, suggesting that the stricter regulatory alternative was not a cost-effective approach.

Second, a less stringent regulatory alternative was analyzed, where it was assumed that employers would use fall protection plans. However, this alternative was rejected because: fall protection plans do not provide a physical or positive means of protection against falls; fatalities and injuries would remain high; and worker safety benefits would not be realized. Similarly, fall protection plans would not comply with California Labor Code section 142.3(a)(2), which requires the Board to adopt regulations that are at least as effective as Fed-OSHA standards.