

DEPARTMENT OF INDUSTRIAL RELATIONS
Occupational Safety and Health Standards Board
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TITLE 8. CALIFORNIA CODE OF REGULATIONS

General Industry Safety Orders,
Article 10.1, Section 3401, Section 3402,
New Sections 3402.1 - 3402.3,
Sections 3403 - 3410, New Section 3410.1, and Section 3411

(Published on January 29, 2021)

[Fire Fighters' Personal Protective Clothing and Equipment – AB 2146](#)

NOTICE IS HEREBY GIVEN that the Occupational Safety and Health Standards Board (Board) proposes to adopt, amend or repeal the foregoing provisions of Title 8 of the California Code of Regulations in the manner described in the Informative Digest, below.

PUBLIC HEARING

PLEASE NOTE: In accordance with [Executive Order N-29-20](#) and [Executive Order N-33-20](#), the March Board Meeting will be conducted via teleconference.

The Board will hold a public hearing starting at 10:00 a.m. on **March 18, 2021** via the following:

- Video-conference at www.webex.com (meeting ID 268 984 996)
- Teleconference at (844) 992-4726 (Access code 268 984 996)
- Live video stream and audio stream (English and Spanish) at <https://videobookcase.com/california/oshsb/>

At this public hearing, any person may present statements or arguments orally or in writing relevant to the proposed action described in the Informative Digest.

WRITTEN COMMENT PERIOD

In addition to written or oral comments submitted at the public hearing, written comments may also be submitted to the Board's office. The written comment period commences on **January 29, 2021** and closes at 5:00 p.m. on **March 18, 2021**. Comments received after that deadline will not be considered by the Board unless the Board announces an extension of time in which to submit written comments. Written comments can be submitted as follows:

By mail to Sarah Money, Occupational Safety and Health Standards Board, 2520 Venture Oaks Way, Suite 350, Sacramento, CA 95833; or
By e-mail sent to oshsb@dir.ca.gov.

AUTHORITY AND REFERENCE

Labor Code Section 142.3 establishes the Board as the only agency in the State authorized to adopt occupational safety and health standards. In addition, Labor Code Section 142.3 requires the adoption of occupational safety and health standards that are at least as effective as federal occupational safety and health standards.

This rulemaking was undertaken in response to Assembly Bill (AB) 2146, Chapter 811, the addition of Section 147.4 to the Labor Code.

INFORMATIVE DIGEST OF PROPOSED ACTION/ POLICY STATEMENT OVERVIEW

On September 29, 2014, the Governor signed AB 2146: Occupational safety: fire fighters: personal protective equipment. As instructed by the Bill, the Department of Industrial Relations convened advisory committee meetings to evaluate if California's safety orders pertaining to fire fighters' personal protective clothing and equipment (PPE) need to be updated. Board staff convened advisory committee meetings to compare California's existing safety orders to the National Fire Protection Association (NFPA) standards. The advisory committee concluded that the existing Title 8 safety orders for fire fighters' PPE are largely outdated and need to be updated, and that amending the existing safety orders would provide a greater degree of personal protection.

The proposal updates Article 10.1, Personal Protective Clothing and Equipment, by removing outdated terminology, design and performance criteria and incorporating by reference the most current NFPA standards regarding personal protective clothing and equipment for fire fighters.

The Board evaluated the proposed regulations pursuant to Government Code section 11346.5(a)(3)(D) and has determined that the regulations are not inconsistent or incompatible with existing state regulations. This proposal is part of a system of occupational safety and health regulations. The consistency and compatibility of that system's component regulations is provided by such things as: (1) the requirement of the federal government and the Labor Code to the effect that the State regulations be at least as effective as their federal counterparts, and (2) the requirement that all state occupational safety and health rulemaking be channeled through a single entity (the Standards Board).

Federal OSHA has regulations applicable to private fire brigades (29 CFR 156), but they do not have vertical regulations that apply to state and local fire fighters.

Anticipated Benefit

The proposal provides fire fighters with more advance personal protective clothing and equipment designed to meet the demands of modern fire fighting and changing climate. The PPE prescribed in the proposal requires that they meet NFPA standards, which provides a baseline or a minimum level of safety for all fire fighters in California. The proposal prevents outdated or contaminated PPE from being a hindrance or harming the fire fighters' ability, as they perform their personal best when working.

Article 10.1. Personal Protective Clothing and Equipment for Fire Fighters

Section 3401. Application.

This section pertains to the application of the article and the general requirements pertaining to personal protective clothing and equipment for fire fighters.

The proposed amendments are as follows:

- Amends subsection (a), which outlines the scope of the article. The proposal revises the referenced section numbers to reflect the proposed changes in Article 10.1. The proposal includes proximity fire fighting and clarifies that Sections 3402.1 and 3402.3 through 3409 apply to proximity fire fighting, not just structural fire fighting. Examples of proximity fires include hazardous waste fires, fuel fires, and aircraft fires. In addition, the proposal specifies that Sections 3402.2, 3410 and 3410.1 apply to wildland fire fighting as defined in Section 3402.
- Existing subsection (b)(6) requires the employer to develop and use a written plan to administer the safe use, maintenance, utilization, and replacement of equipment. An informational note is proposed to be added to subsection (b)(6) to refer the reader to proposed new Section 3402.3 and Section 3410, which contain new requirements regarding the selection, inspection and maintenance of protective ensembles for structural and proximity fire fighting, and wildland fire fighting, respectively.
- Deletes existing subsection (c), as the provisions for personal alarms were incorrectly placed in the application section pertaining to PPE. This deletion of subsection (c) allows for better organization of Title 8 and will make it easier for the reader to find the regulation that applies to personal alert safety systems.

Section 3402. Definitions.

This section contains the definitions of terms that are used in Article 10.1. Since the Article is proposed to be updated, it is necessary to update the definitions to reflect the proposed new content of Article 10.1. The proposal deletes obsolete terminologies and the definitions of the terms that are listed in the NFPA standards that are proposed to be incorporated by reference in Article 10.1. This proposal provides clarity to Title 8 by removing inconsistencies and duplication of terminologies.

The proposed amendments are as follows:

- Deletes the following existing definitions: after flame; after glow; break away device; char length; education; emergency pick up labor; energy, absorption system; face shield; fire fighting, structural; flame resistance; heat resistance; helmet; incipient stage fire; injury; interior structural fire fighting activities (private fire brigades); lining; outer shell; protective clothing; retention system; trousers; turnout clothing; vapor barrier; and winter liner. The deletion of the above definitions allows for the utilization of the definitions as defined in the NFPA documents that are proposed to be incorporated by reference.
- Amends the definition of “fire fighter” by substituting the word “worker” in place of the word “employee” to clarify that the provisions apply to all types of fire fighters including: inmates, volunteers, and career fire fighters. The proposal deletes the reference to emergency pick-up labor or other persons who may perform first-aid fire extinguishment as collateral to their regular duties from the fire fighter definition. This reference is outdated, specifically, the term “emergency pick-up labor” (proposed for deletion in Section 3402) which is defined as “personnel consisting of the National Guard, military forces, forest product workers, farm workers, ranchers, and other persons who may be recruited from time to time to help contain and control wildland fires”. When there is a significant wildfire event, the personnel brought in under “mutual aid” or emergency contract to control wildfires are simply called “fire fighters”. Therefore, the reference to emergency pick-up labor or other persons will no longer be used in Article 10.1.
- Amends the definition of “harmful exposure” in order to be consistent with Section 5140, which contains definitions pertaining to harmful dusts, fumes, mists, vapors, and gases.
- Adds the following definitions: overhaul, as this term is proposed to be used in Section 3409; primary eye protection, as this term is proposed to be used in Section 3403; proximity fire fighting, as this term is proposed to apply to Section 3401; structural fire fighting, as this term is proposed to apply to Section 3401; and wildland fire fighting, as this term is proposed to apply to Section 3401. Since the definitions of “proximity fire fighting”, “structural fire fighting”, and “wildland fire fighting” are terms used to determine the application of the various sections in Article 101, it is important these definitions are listed in Section 3402, Definitions.

New Section 3402.1. Purchase Quality Standards for Personal Protective Clothing and Equipment for Structural Fire Fighting and Proximity Fire Fighting.

The proposal creates a new requirement to purchase quality standards for structural and proximity fire fighting to ensure that employers purchase personal protective clothing and equipment (PPE) that are of a certain quality to meet the demands of today’s structural and proximity fire fighting needs. Approved PPE means that the PPE that are listed, labeled, or certified meet specified design, performance, and testing

criteria or governmental or nationally recognized standards. Therefore, the purchasing of “approved” PPE will ensure that the PPE purchased are suitable for the adverse conditions the PPE will be subjected to during fire fighting operations. The proposal requires new purchases of structural and proximity fire fighting PPE to meet the following:

- NFPA 1971, Standard on Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting, 2018 Edition. This standard is proposed to be incorporated by reference and provides the specifications for helmets, eye and face protection, hoods, protective garments, hand protection, and protective footwear.
- NFPA 1982, Standard on Personal Alert Safety Systems (PASS), 2018 Edition. This standard is proposed to be incorporated by reference and provides the specifications for personal alert safety systems. Personal alert safety systems notify others in the area when a fire fighter is in distress.
- NFPA 1981, Standard on Open-Circuit Self-Contained Breathing Apparatus (SCBA) for Emergency Services, 2019 Edition. This standard is proposed to be incorporated by reference and provides the specifications for self-contained breathing apparatus. A SCBA is an atmosphere supplying respirator that supplies respirable air atmosphere to the user from a breathing air source that is independent of the ambient environment and designed to be carried by the user.

New Section 3402.2. Purchase Quality Standards for Personal Protective Clothing and Equipment for Wildland Fire Fighting.

The proposal creates a new requirement to purchase quality standards for wildland fire fighting to ensure that employers purchase personal protective clothing and equipment (PPE) that are of a certain quality to meet the demands of today’s wildland fire fighting needs. Approved PPE means that the PPE that are listed, labeled, or certified meet specified design, performance, and testing criteria or governmental or nationally recognized standards. Therefore, the purchasing of “approved” PPE will ensure that the PPE purchased are suitable for the adverse conditions the PPE will be subjected to during fire fighting operations. The proposal requires new purchases of wildland fire fighting PPE to meet the following:

- NFPA 1977, Standard on Protective Clothing and Equipment for Wildland Fire Fighting, 2016 Edition. This standard is proposed for incorporation by reference and provides the specifications for helmets, eye and face protection, hoods, protective garments, hand protection, footwear, chain saw protectors, and load carrying equipment.
- U.S. Department of Agriculture, Forest Service Specification, Shelter, Fire (M-2002), 5100-606C (August 2, 2011). This standard is proposed for incorporation by reference and provides the specifications for fire shelters. Fire shelter is a

safety device of last resort used by wildland fire fighters when trapped by wildfires and must shelter in place.

New Section 3402.3. Selection, Inspection, and Maintenance of Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting.

The proposal creates a new section for selecting, inspecting, and maintaining structural and proximity fire fighting PPE. The selection of the PPE must be based on the hazards and the conditions fire fighters are reasonably expected to encounter. After the PPE is acquired, standards regarding the proper care, inspection, and maintenance are necessary to ensure the PPE's effectiveness. Cleaning the PPE reduces employee exposure to the harmful substances that contaminate the PPE during the course of work. The reduced exposure helps in lowering the risk to developing cancer and other diseases caused by chemical exposure.

The proposal requires the following:

- New subsection (a) incorporates by reference NFPA 1851, Standard on Selection, Care, and Maintenance of Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting, 2014 Edition. NFPA 1851 is the fire fighting industry's standards that contains the requirements for selection, inspection, and maintenance of fire fighting protective ensembles.
- New subsection (a) includes an exception that deviates from the recordkeeping requirements in NFPA 1851, Standard on Selection, Care, and Maintenance of Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting, 2014 Edition, which is proposed to be incorporated by reference. The proposed exception requires the employer to retain the records of the implementation of Section 4.3. Records, for 3 years instead of 1 year. The retention of the records may help the employer assess the performance of their chosen PPE.
- New subsection (b) requires helmets that are not compliant to NFPA 1971, Standard on Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting, 2007 Edition, which is proposed to be incorporated by reference, to be retired 10 years from the date of manufacture. Retired helmets are proposed to be replaced by new purchases of NFPA compliant helmets as required by proposed new Section 3402.1.
- New subsection (c)(1) provides a one (1) year phase-in time period for the implementation of the requirements of Chapter 5 (Selection), Chapter 6 (Inspection), Chapter 7 (Cleaning and Decontamination), Chapter 8 (Repair), Chapter 9 (Storage), and Chapter 12 (Test Procedures) of NFPA 1851, Standard on Selection, Care, and Maintenance of Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting, 2014 Edition, which is proposed to be incorporated by reference, with the exception of Chapter 10 regarding PPE retirement. The phase-in time period allows employers to work towards full

implementation of NFPA 1851. The phase-in time period provides employers time to complete assessments, develop procedures, secure contracts, and conduct training.

- New subsection (c)(2) provides a three (3) year phase-in time period to comply with Chapter 10 (Retirement, Disposition, and Special Incident Procedure) of NFPA 1851, Standard on Selection, Care, and Maintenance of Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting, 2014 Edition, which is proposed to be incorporated by reference. This proposal allows for an orderly transition to NFPA compliant equipment. Retired PPE will be replaced with NFPA compliant PPE.

Section 3403. Head Protection.

The existing section contains the requirements for in-service head protection. The provisions from existing Section 3404 regarding eye and face protection are proposed to be relocated to Section 3403, with revisions. This proposal combines the requirements of head, eye, and face protection into one section to improve organization and removes outdated requirements for head, eye, and face protection currently in use or in-service.

The proposed amendments are as follows:

- Amends the title of Section 3403 from “Head Protection” to “Head, Eye and Face Protection” to reflect the proposed contents of the section.
- Deletes the word “General” as this word is unnecessary and in its place includes the words “Head Protection” as a sub-heading in subsection (a). In addition, it is proposed to correct a grammatical error in subsection (a) by including the phrase “provided to each fire fighter” in place of the existing phrase “provided for each fire fighter”.
- Deletes existing subsection (b) to remove outdated minimum requirements for structural fire fighting helmets. The helmets described in existing subsection (b) refer to NFPA 1972 Structural Fire Fighters’ Helmet, dating back to 1985. These helmets can no longer be purchased and are not likely to be in-service or have deteriorated from use. The manufacturers of NFPA compliant helmets only make helmets that meet the requirements of the current edition, not the prior editions.

Helmets that were purchased prior to January 1, 1988 that meet the U.S. Department of Commerce, Model Performance Criteria for Structural Fire Fighters’ Helmets, dated August 1977, should no longer be in-service because of age, due to the same reasons as noted above.

- Adds new subsection (b), which contains the relocated and revised provisions for eye and face protection from existing Section 3404.

- Adds new subsection (b)(1), which requires the employer to provide eye and/or face protection to fire fighters for protection from potential work-related injuries.
- Adds new subsection (b)(2), which requires in-service eye and face protection to meet the requirements of NFPA 1971, Standard on Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting, 2007 Edition or American National Standards Institute/International Safety Equipment Association, American National Standard for Occupational and Educational Personal Eye and Face Protection Devices, ANSI/ISEA Z87.1-2015, which are both proposed to be incorporated by reference. The “Z87+” mark on the glasses allows for easy identification that the eye and face protection meets the ANSI/ Z87 requirements. This proposal is necessary to ensure that the eye and face protection equipment are of a certain quality.
- Adds new subsection (b)(3), which requires the use of primary eye protection, unless the employee is wearing a self-contained breathing apparatus (SCBA) facepiece. This proposed requirement ensures that the employee is afforded eye protection at all times.
- Adds new subsection (b)(3)(A), which requires that the face-mounted regulator to be in use in order for the SCBA facepiece to be considered as providing eye and face protection. If the face-mounted regulator is not in place, there will be an opening; therefore, the face will not be protected.
- Adds new subsection (b)(4), which adds a requirement to clarify that if the fire fighter is not wearing a full-face respirator, eye protection shall be worn.

Section 3404. Eye and Face Protection.

The existing provisions for eye and face protection contained in this section are proposed to be relocated to Section 3403, with revisions. The ear and neck protection provisions from existing Section 3405 are proposed to be relocated to Section 3404, with revisions. This proposal establishes the minimum level of safety for ear and neck protection.

The proposed amendments are as follows:

- Amends the title of Section 3404 from “Eye and Face Protection” to “Ear and Neck Protection and Protective Hood Interface” to reflect the proposed contents of the section.
- Deletes existing subsections (a) and (b) because the provisions regarding eye and face protection are proposed to be revised and relocated to Section 3403(b).

- Adds new subsection (a) regarding the provisions of ear and neck protection. These requirements are revised and relocated from existing Section 3405(a) to require the employer to provide an ear flap attachment to the helmet and/or hood or shroud. The rest of the means of protection listed in existing Section 3405 are no longer standard components.
- Adds new subsection (b), which requires that in-service hood and coat collars be constructed and tested in accordance with NFPA 1971, Standard on Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting, 2007 Edition, which is proposed to be incorporated by reference. These provisions are revised and relocated from existing subsection (c).
- Deletes existing subsection (c) as the testing requirements for hood and coat collars are redundant as a result of proposed new subsection (b).
- Adds new subsection (c), which requires the fabric and non-fabric materials for the ear and neck protection to meet the requirements of NFPA 1971, Standard on Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting, 2007 Edition, which is proposed to be incorporated by reference. These provisions are revised and relocated from existing Section 3405(b) and (c).

Section 3405. Ear and Neck Protection.

The existing provisions for ear and neck protection are proposed to be relocated to Section 3404, with revisions. The proposal establishes the minimum level of quality for in-service body protection and relocates the provisions for body protection from existing Section 3406 to Section 3405 to improve organization.

The proposed amendments are as follows:

- Amends the title of Section 3405 from “Ear and Neck Protection” to “Body Protection” to reflect the proposed contents of the section.
- Deletes existing subsections (a), (b), and (c) because the provisions regarding ear and neck protection are proposed to be revised and relocated to Section 3404.
- Adds new subsection (a), which requires the employers to provide and ensure that body protection is worn by fire fighters when they are fighting structural and proximity fires. This provision is revised and relocated from existing Section 3406(a).
- Adds new subsection (b), which requires the in-service fire fighting protective garments to meet the requirements of NFPA 1971, Standard on Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting, 2007 Edition, which is proposed to be incorporated by reference.

- Adds new subsection (c), which requires that the body protection for other than structural fires shall be appropriate for the potential hazards. This provision is revised and relocated from existing Section 3406(d).

Section 3406. Body Protection.

The existing provisions for body protection are proposed to be relocated to Section 3405, with revisions. The proposal relocates the provisions for hand and wrist protection from existing Section 3407 to Section 3406, with revisions. The proposal establishes the minimum level of quality for in-service gloves for hand and wrist protection.

The proposed amendments are as follows:

- Amends the title of Section 3406 from “Body Protection” to “Hand and Wrist Protection” to reflect the proposed contents of the section.
- Deletes existing subsections (a), (b), (c), and (d) because the provisions regarding body protection are proposed to be revised and relocated to Section 3405.
- Adds new subsection (a), which is revised and relocated from existing Section 3407(a). The proposal requires the employers to provide and require the use of protective gloves to structural and proximity fire fighters. The protective gloves shall be properly sized and suitable to the hazards encountered in fire emergencies.
- Adds new subsection (b), which is revised and relocated from existing Section 3407(b). The proposal requires that the protective gloves be made from durable outer material designed to withstand the effects of flame, heat, vapor, liquids, sharp objects and other hazards that are encountered in fire fighting.
- Adds new subsection (c), which is revised and relocated from existing Section 3407(g). This proposal ensures that the in-service gloves are permanently labeled in accordance with NFPA 1971, Standard on Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting, 2007 Edition, which is proposed to be incorporated by reference, instead of being labeled with the lot number, reference to specified test, and date of successful test.

Section 3407. Hand and Wrist Protection.

The existing provisions for hand and wrist protection are proposed to be relocated to Section 3406, with revisions and relocates the provisions for foot protection from existing Section 3408 to Section 3407, with revisions. The proposal establishes the minimum level of quality for in-service foot protection.

The proposed amendments are as follows:

- Amends the title of Section 3407 from “Hand and Wrist Protection” to “Foot Protection” to reflect the proposed contents of the section.
- Deletes existing subsections (a), (b), (c), (d), (e), (f), and (g) because the provisions regarding hand and wrist protection are proposed to be revised and relocated to Section 3406.
- Adds new subsection (a), which requires foot protection to be provided and worn by structural and proximity fire fighters, not just structural fire fighters. This provision is revised and relocated from existing Section 3408(a).
- Adds new subsection (b), which requires the coordination of the foot protection with the protective clothing system. This provision is relocated verbatim from existing Section 3408(b).
- Adds new subsection (c), which requires that the provisions for in-service foot protection meet the requirements of NFPA 1971, Standard on Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting, 2007 Edition, which is proposed to be incorporated by reference.

Section 3408. Foot Protection.

The existing requirements for foot protection are proposed to be relocated to Section 3407, with revisions. This section is proposed to contain the provisions for Personal Alert Safety Systems (PASS), which are relocated from existing Section 3401(c), with revisions. The purpose of PASS is to alert other emergency personnel when a fire fighter becomes stationary over a period of time and may be in distress. The proposal would provide fire fighters with reliable personal alert safety systems that meet NFPA 1982 by removing outdated and potentially faulty PASS.

The proposed amendments are as follows:

- Amends the title of Section 3408 from “Foot Protection” to “Personal Alert Safety Systems (PASS)” to reflect the proposed contents of the section.
- Deletes existing subsections (a), (b), (c) (d), and (e), which contains the provisions for foot protection. The provisions of foot protection are proposed to be revised and relocated to Section 3407.
- Adds new subsection (a), which requires that fire fighters be provided and use personal alarms in emergency situations that involve entrapment hazards due to a possible structural collapse of any type or atmospheric hazards such as immediately dangerous to life and health (IDLH) atmospheres. PASS shall also be worn when directed by the incident commander or incident safety officer. The

provisions for PASS are revised and relocated from existing Section 3401(c)(1) by deleting the reference to the older edition of the NFPA standard. PASS made to the NFPA editions prior to 2007 were documented to have failed due to water intrusion and high temperatures.

- Adds the heading “In-Service Personal Alarms” in new subsection (b) to describe the proposed contents of this subsection.
 - Adds new subsection (b)(1), which contains the revised and relocated provisions from existing Section 3401(c)(1), which requires the use of PASS when fire fighters are engaged in interior structural fire fighting activities that require the use of self-contained breathing apparatus (SCBA). The proposal also incorporates by reference NFPA 1982, Standard on Personal Alert Safety Systems, 2007 Edition. PASS made to the NFPA editions prior to 2007 were documented to have failed due to water intrusion and high temperatures.
 - Adds new subsection (b)(2), which requires that the PASS be certified to indicate compliance with this section. This requirement is relocated verbatim from existing Section 3401(c)(5).

Section 3409. Respiratory Protection.

This section contains the provisions for respiratory protection to protect fire fighters from airborne contaminants. The proposal links NFPA 1852 to NFPA 1981 to address the selection, maintenance, care and use of self-contained breathing apparatus.

The proposed amendments are as follows:

- Deletes the heading “Permissible Devices” in subsection (a)(2), and replaces this heading with “Self-Contained Breathing Apparatus (SCBA)” in a new subsection (b), to better reflect the proposed contents in this subsection.
- Renumbers existing subsection (a)(2)(A) to subsection (b)(1) as a result of new subsection (b).
- Adds new subsection (b)(2) to require that SCBA be selected, cleaned, inspected, and maintained in accordance with NFPA 1852, Standard on Selection, Care, and Maintenance of Open-Circuit Self-Contained Breathing Apparatus (SCBA), 2019 Edition, which is proposed to be incorporated by reference. NFPA 1852 lists the acceptable editions of NFPA 1981 for in-service SCBA.
- Adds new subsection (b)(2)(A), which requires SCBA facepieces, if available, to be upgraded in accordance with NFPA 1981, Standard on Open-Circuit Self-Contained Breathing Apparatus (SCBA) for Emergency Services, 2013 or 2019 Edition, which are proposed to be incorporated by reference, for better heat and

flame resistance. The employer is provided three (3) years to purchase new facepieces.

- Renumbers existing subsection (a)(2)(B) to subsection (b)(3) as result of new subsection (b).
- Adds new subsection (b)(3)(A) to require that the close-circuit SCBA be National Institute of Occupational Safety and Health (NIOSH) certified with a minimum rated service life of at least two (2) hours and shall operate in the positive-pressure mode only to prevent inward leakage. This requirement is consistent with the NIOSH respiratory approval requirements and the NFPA 1500, Standard on Fire Department Occupational Safety and Health Program, 2007 Edition.
- Renumbers existing subsection (b) to subsection (c), General Requirements, as a result of new subsection (b).
- Renumbers existing subsection (b)(1) to subsection (c)(1) as a result of new subsection (b) and amends subsection (c)(1) to delete outdated references to ANSI standards, specifically, ANSI Z88.2 (1980), Practices for Respiratory Protection and ANSI Z88.5 (1981), Practices for Respiratory Protection for the Fire Services. The reference to the exemption from the prohibition of the use of contact lenses as specified in outdated ANSI references is proposed for deletion. Contact lenses were never prohibited from being used in conjunction with the use of respirators, and therefore; this provision is unnecessary.
- Deletes existing subsection (b)(2), which exempts the cleaning and sanitation of facepieces in emergency conditions. For hygiene purposes, facepieces should be cleaned between uses, especially when the same facepiece is used by other fire fighters.
- Adds new subsection (c)(2), which requires that SCBA shall be worn during overhaul operations. Overhaul is defined in Section 3402 as the final stages of fire extinguishment, after the main body of a fire has been controlled, during which all traces of fire are extinguished, where the potential for harmful exposure still exists. It is necessary to wear SCBA during overhaul operations to protect the respiratory system of fire fighters from respiratory diseases such as asbestosis, mesothelioma, and cancer.
- Deletes existing subsection (b)(4), which contains specifications regarding automatic warning signal of respiratory protective devices because the criteria is outdated. SCBA contain a warning device call an End of Service Time Indicator (EOSTI) that alerts the user that the reserve air supply is being utilized. More current SCBA EOSTIs are built to more protective requirements than what is required in existing subsection (b)(4). For example, SCBA that are built to NFPA 1981, Standard on Open-Circuit Self-Contained Breathing Apparatus (SCBA) for

Emergency Services, 2013 Edition, are required to alarm at 33%, +5/-0 percent of full cylinder pressure.

- Renumbers existing subsections (b)(5) to subsection (c)(4) as a result of deleting existing subsection (b)(4).
- Renumbers existing subsection (b)(6) to subsection (c)(5) as a result of deleting existing subsection (b)(4). This proposal deletes the permissive language that allows air cylinders and the SCBA from different manufacturers to be paired and used. The proposal requires the NIOSH-approved SCBA be used with the approved cylinder from the same manufacturer and that those cylinders that are not labeled as NIOSH-certified cannot be used. This proposal is necessary because the NIOSH approval process certifies the SCBA as a unit from the same manufacturer.
 - Under the proposed exception, cylinders with the same pressure rating from different manufacturers may be used only when cylinders from the same manufacturer are not immediately available on the scene. This narrow exception is necessary because the NIOSH approval is based on the SCBA and air cylinders from the same manufacturer, but there may be emergency situations where it is necessary to use an air cylinder from a different manufacturer.
- Renumbers existing subsection (c) to subsection (d), Positive Pressure, as a result of new subsection (b) and corrects the cross-referenced subsection as a result of the proposed renumbering system.

Section 3410. Wildland Fire Fighting Requirements.

The existing standard regarding wildland fire fighting requirements is proposed to be relocated to proposed new Section 3410.1, with revisions. New Section 3410 is proposed to contain the selection, inspection, and maintenance requirements of protective ensembles for wildland fire fighting.

The proposed amendments are as follows:

- Amends the title of Section 3410 from “Wildland Fire Fighting Requirements” to “Selection, Inspection, and Maintenance of Protective Ensembles for Wildland Fire Fighting” to reflect the proposed contents of this section.
- Deletes existing subsections (a), (b), (c), (d), (e), (f) and (g) because the provisions for wildland fire fighting personal protective equipment is proposed to be relocated to new Section 3410.1.
- Adds new subsection (a), which requires the employer to perform a risk assessment prior to the selection of personal protective equipment. The proposal specifies the required contents of the written risk assessment.

- New subsections (a)(1) through (a)(7) list the criteria to be considered for the selection of PPE.

Risk assessment is necessary in order to characterize the exposure and the hazards associated with the work. The requirement to conduct a risk assessment with defined criterion provides the employer a template to characterize and study hazards and exposures in order to properly select PPE.

- Adds new subsection (b) regarding the selection of protective ensembles. The selection of PPE is dependent on the results of the risk assessments. These operational requirements will dictate the criteria for the protective ensemble.
 - The employer is required to document how they arrived at their selection by identifying the garment configuration and component of the wildland fire fighting PPE, and specifying the performance criteria for each wildland fire fighter PPE garment and its components, as stated in new subsections (b)(1) and (b)(2).
 - New subsection (b)(2)(A)1. requires the employer when specifying performance criteria for wildland fire fighting PPE to comply with NFPA 1977, Standard on Protective Clothing and Equipment for Wildland Fire Fighting, 2011 Edition, which is proposed to be incorporated by reference.
 - New subsections (b)(2)(A)2. through 4. require the employer to consider Radiant Protection Performance (RPP), Thermal Health Loss (THL), and Thermal Protective Performance (TPP).
 - New subsection (b)(3) includes other selection factors, such as design features, comfort, compatibility, and sizing.

This proposal is necessary to ensure that the criteria listed are considered in the selection of the protective ensembles for the wildland fire fighters' operations. Identification of operational criteria facilitates in the selection of PPE.

- Adds new subsection (c) regarding inspection of protective ensembles according to the manufacturer's recommendation.
 - New subsections (c)(1) and (c)(2) require PPE to be inspected routinely and annually to ensure that the PPE functions as intended.
 - New subsection (c)(3) specifies what to look for during the inspection, such as, but not limited to: contamination and soiling, rips, tears, holes, irregularities, damages, discoloration, etc.

- New subsection (c)(4) requires that PPE be repaired in accordance to the manufacturer's specification or be removed from service. This proposal will ensure that repairs are done properly and defective equipment will not be used.

This proposal is necessary to ensure that protective ensembles are adequately inspected so that appropriate maintenance or repair can be done. Inspections of PPE assures fire fighters that their PPE are in good working order.

- Adds new subsection (d) regarding the cleaning of protective ensembles according to the manufacturer's recommendations, specifically, the frequency of cleaning, the cleaning agents, spot cleaning and machine washing procedures, and drying procedures. Cleaning removes contaminants; therefore, prevents undue exposures from using contaminated protective ensembles.
- Adds new subsection (e), which requires that employees be trained regarding the proper fit or sizing, limitations, proper use, donning and doffing, cleaning procedures, inspection procedures and frequencies, and storage of personal protective equipment. This proposal is necessary to ensure that employees know what they need to do in order to properly use and care for their equipment. Training educates the fire fighters on the use of PPE.
- Adds new subsection (f) regarding the retirement of the PPE.
 - Adds new subsection (f)(1), which requires that PPE be retired 10 years from the date of manufacture. This proposal ensures that outdated equipment are removed from service every 10 years.
 - Adds new subsection (f)(2), which requires PPE that do not meet NFPA 1977, Standard on Protective Clothing and Equipment for Wildland Fire Fighting, 2011 Edition, which is proposed to be incorporated by reference, be retired by July 1, 2021. This proposal ensures that in-service PPE meets specified quality standards.
 - Adds new subsection (f)(3), which requires that retired PPE be destroyed or disposed of in a manner that it will not be used for any fire fighting. This proposal prevents the use of ineffective or defective PPE.
- Adds new subsection (g), which requires employers to maintain records to document employee PPE training and the retirement of PPE. Recordkeeping of the training and the retirement of PPE aids in evaluating the performance of the PPE. Recordkeeping can reveal the weakness of the PPE, length of time employers should expect the PPE to be in service, and other useful information that can aid the employer in future selection of PPE.

New Section 3410.1. Personal Protective Equipment for Wildland Fire Fighting.

The proposal creates a new Section 3410.1 which contains provisions relocated from existing Section 3410 regarding PPE requirements for wildland fire fighters, with revisions. The proposal provides a complete protective ensemble to updating existing requirements and includes new equipment to complete the protective ensemble.

The proposal contains the requirements for in-service PPE as follows:

- Adds new subsections (a) and (a)(1), which specifies the provisions for head protection. This provision is relocated from existing Section 3410(a)(1), with an editorial revision that head protection shall be provided “to”, instead of provided “for”, fire fighters when exposed to a head injury hazard. The other provisions are relocated verbatim and require that head protection be worn by fire fighters when they are exposed to head injury hazards and that the head protection be maintained in a location readily available to the fire fighter.
- Adds new subsection (a)(2), which requires in-service helmets be suitable for either wildland or structural fire fighting, meaning they are interchangeable. The helmets shall conform to one of the following:
 - Adds new subsection (a)(2)(A), which requires in-service helmets to comply with NFPA 1977, Standard on Protective Clothing and Equipment for Wildland Fire Fighting, 2011 Edition, which is proposed to be incorporated by reference.
 - Adds new subsection (a)(2)(B), which requires the helmets to meet the requirements for structural fire fighting set forth in Section 3403.
- Adds new subsection (a)(3) regarding the provisions of labeling of helmets. This provision is relocated verbatim from existing Section 3410(a)(6).
- Adds new subsection (b), which specifies the provisions for in-service eye protection. These provisions are relocated from existing Section 3410(b), with revisions, to incorporate by reference either NFPA 1977, Standard on Protective Clothing and Equipment for Wildland Fire Fighting, 2011 Edition or American National Standard Institute/International Safety Equipment Association, American National Standard for Occupational and Educational Personal Eye and Face Protection Devices, ANSI/ISEA Z87.1-2015. This subsection also requires that protective goggles have a means of attachment designed to be used with head protection.
- Adds new subsection (c) regarding the provisions of respiratory protection from wildfire smoke.

- Adds new subsection (c)(1), which requires fire fighters to use the respirator provided by the employer that are approved and certified in accordance with Section 5144 and NIOSH, under 42 CFR part 84. This provision is revised and relocated from existing Section 3409(a)(1).
- Adds new subsection (c)(2), which requires the employer to provide air purifying respirators that are in compliance with NFPA 1984, Standard on Respirators for Wildland Fire-Fighting Operations, 2016 Edition, which is proposed to be incorporated by reference. Currently, there are no NFPA 1984 approved respirators; therefore, an exception is provided for market availability. The proposed exception states that employers are given one year to provide NFPA approved respirators to fire fighters after the product is released in the market.
- Adds new subsection (d) regarding the provisions for in-service ear and neck protection. These provisions are revised and relocated from existing Section 3410(c), to suggest the means to protect against burns on the ears and neck. The fabric for ear and neck protection must meet the requirements of NFPA 1977, Standard on Protective Clothing and Equipment for Wildland Fire Fighting, 2011 Edition, which is proposed to be incorporated by reference.
- Adds new subsection (e), which specified the provisions regarding in-service body protection.
 - Adds new subsection (e)(1) regarding in-service body protection, which is revised and relocated from existing Section 3410(d), to require that employer-provided protective garments meet the requirements of NFPA 1977, Standard on Protective Clothing and Equipment for Wildland Fire Fighting, 2011 Edition, which is proposed to be incorporated by reference.
 - Adds new subsection (e)(2), which requires the employer to provide in-service chainsaw protectors to protect the legs from accidental contact with a chainsaw. The chainsaw protector chaps must meet the requirements of U.S. Department of Agriculture, Forest Service Specification, Chaps, Chainsaw, 6170-4G, September 6, 2011, which is proposed to be incorporated by reference.
- Adds new subsection (f), which provides the provisions for protective gloves.
 - New subsection (f)(1) is relocated from existing Section 3410(e)(1), with editorial revisions that protective gloves shall be provided “to”, instead of provided “for” wildland fire fighters and to divide the first sentence in existing Section 3410(e)(1) into two separate sentences for clarity as provided in this subsection. The other provisions are relocated verbatim and require the fire fighters to wear protective gloves when exposed to a hazardous environment that may cause injury to the hand or wrist.

- New subsection (f)(2) requires in-service protective gloves to meet the requirements of NFPA 1977, Standard on Protective Clothing and Equipment for Wildland Fire Fighting, 2011 Edition, which is proposed to be incorporated by reference.
- Adds new subsection (g), which provides the provisions for foot protection. These provisions for foot protection are revised and relocated from existing Section 3410(f).
 - New subsection (g)(1) requires fire fighters to wear protective footwear while engaged in wildland fire fighting activities. This provision is relocated verbatim from existing Section 3410(f)(1).
 - New subsection (g)(2) requires that protective footwear shall meet the requirements of NFPA 1977, Standard on Protective Clothing and Equipment for Wildland Fire Fighting, 2011 Edition, which is proposed to be incorporated by reference.
- Adds new subsection (h), which provides the provisions for in-service fire shelters. This provision is relocated from existing Section 3410(g), with revisions, to require that fire shelters meet or exceed the U.S. Department of Agriculture, Forest Service Specification, Shelter, Fire (M-2002), 5100-606C, August 22, 2011, which is proposed to be incorporated by reference.
- Adds new subsection (i), which provides provisions regarding in-service load carrying equipment. This provision requires that employer-provided load carrying equipment meets the requirements of NFPA 1977, Standard on Protective Clothing and Equipment for Wildland Fire Fighting, 2011 Edition, which is proposed to be incorporated by reference.

Section 3411. Private Fire Brigades.

This section contains the requirements for fire fighters within private fire brigades who do not work for city, county, or state government. Private fire brigades are typically employed by refineries, amusement parks, large aerospace companies, and other private companies whose operations present a need for fire protection.

The proposal revises existing subsection (d) by providing a cross-reference to proposed Sections 3402.1 and 3402.3 through 3409 that pertain to PPE. The new cross-references necessitates the deletion of existing subsections (d)(1) through (d)(6), and (e) to avoid duplication.

The proposal provides consistency throughout Article 10.1, Personal Protective Clothing and Equipment for Fire Fighter, by providing public fire fighter entities and private fire fighter companies the same baseline level of protection when fighting fires.

DOCUMENTS INCORPORATED BY REFERENCE

1. National Fire Protection Association (NFPA) 1971, Standard on Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting, 2018 Edition.
2. NFPA 1982, Standard on Personal Alert Safety Systems (PASS), 2018 Edition.
3. NFPA 1981, Standard on Open-Circuit Self-Contained Breathing Apparatus (SCBA) for Emergency Services, 2019 Edition.
4. NFPA 1977, Standard on Protective Clothing and Equipment for Wildland Fire Fighting, 2016 Edition.
5. U.S. Department of Agriculture, Forest Service, Specification, Shelter, Fire (M-2002), 5100-606C, August 22, 2011.
6. NFPA 1851, Standard on Selection, Care, and Maintenance of Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting, 2014 Edition.
7. NFPA 1971, Standard on Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting, 2007 Edition.
8. American National Standard Institute (ANSI)/International Safety Equipment Association (ISEA), American National Standard for Occupational and Educational Personal Eye and Face Protection Devices, ANSI/ISEA Z87.1-2015.
9. NFPA 1982, Standard on Personal Alert Safety Systems (PASS), 2007 Edition.
10. NFPA 1852, Standard on Selection, Care, and Maintenance of Open-Circuit Self-Contained Breathing Apparatus (SCBA), 2019 Edition.
11. NFPA 1981, Standard on Open Circuit Self-Contained Breathing Apparatus (SCBA) for Emergency Services, 2013 Edition.
12. NFPA 1977, Standard on Protective Clothing and Equipment for Wildland Fire Fighting, 2011 Edition.
13. NFPA 1984, Standard on Respirators for Wildland Fire-Fighting Operations, 2016 Edition.
14. U.S. Department of Agriculture, Forest Service, Specification, Chaps, Chainsaw, 6170-4G, September 6, 2011.

These documents are too cumbersome or impractical to publish in Title 8 or may include copyrighted items. Therefore, it is proposed to incorporate the documents by reference. The Standards 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 Standards Board Office located at 2520 Venture Oaks Way, Suite 350, Sacramento, California. Appointments can be scheduled via email at oshsb@dir.ca.gov or by calling (916) 274-5721.

DISCLOSURES REGARDING THE PROPOSED ACTION

Mandate on Local Agencies or School Districts:

This regulation could result in claims of reimbursable state mandate, which if sustained by the Commission on State Mandates, could result in a General Fund impact.

Cost or Savings to State Agencies:

The estimated initial cost is \$668,000 and the estimated annual on-going cost is \$2.2 million.

Cost to Any Local Government or School District Which Must be Reimbursed in Accordance with Government Code Sections 17500 through 17630:

The estimated initial compliance cost is \$13.6 million and the estimated annual on-going cost is \$44.3 million. This proposed regulation may result in claims of reimbursable mandate, which if sustained by the Commission on State Mandates, could result in a General Fund impact.

Other Nondiscretionary Cost or Savings Imposed on Local Agencies: None.

Cost or Savings in Federal Funding to the State: None.

Cost Impact on a Representative Private Person or Business:

The estimated cost per private fire brigade is approximately \$18,462 and the estimated annual on-going cost is \$60,122 per private fire brigade.

Statewide Adverse Economic Impact Directly Affecting Businesses and Individuals: Including the Ability of California Businesses to Compete:

The Board has made an initial determination that this proposal will not result in a significant, statewide adverse economic impact directly affecting businesses/individuals, including the ability of California businesses to compete with businesses in other states. The proposal primarily affects local and state fire departments, with minimal impact to the private industry.

Significant Affect on Housing Costs: None.

SMALL BUSINESS DETERMINATION

The Board has determined that the proposed amendments may affect small businesses. However, no economic impact is anticipated. The proposal primarily affects local and state fire departments.

RESULTS OF THE ECONOMIC IMPACT ASSESSMENT/ANALYSIS

The proposed regulations will not have any effect on the creation or elimination of California jobs or the creation of new businesses or the elimination of existing California businesses or affect the expansion of existing California businesses. The proposal primarily affects local and state fire departments.

BENEFITS OF THE PROPOSED ACTION

The proposal provides structural and wildland fire fighters with more advanced personal protective equipment designed to meet the demands of modern fire fighting and changing climate. PPE prescribed by the NFPA standard establishes a minimum level of safety for all fire fighters in California.

The proposal is aimed to prevent outdated or contaminated PPE from being a hindrance or harming the fire fighters' ability as they perform their personal best when performing life-saving work. In addition, advanced personal protective clothing and equipment may reduce injuries and mortality, providing fire stations with increased continuity of staff service and productivity. Therefore, the proposal benefits the health and welfare of California residents, worker safety, and the state's environment.

CONSIDERATION OF ALTERNATIVES

In accordance with Government Code Section 11346.5(a)(13), the Board must determine that no reasonable alternative it considered to the regulations or that has otherwise been identified and brought to its attention would either be more effective in carrying out the purpose for which the action is proposed or would be as effective and less burdensome to affected private persons than the proposed action or would be more cost-effective to affected private persons and equally effective in implementing the statutory policy or other provision of law than the proposal described in this Notice.

The Board invites interested persons to present statements or arguments with respect to alternatives to the proposed regulations at the scheduled public hearing or during the written comment period.

CONTACT PERSONS

Inquiries regarding this proposed regulatory action may be directed to Christina Shupe (Executive Officer) and the back-up contact person is Michael Manieri (Principal Safety Engineer) at the Occupational Safety and Health Standards Board, 2520 Venture Oaks Way, Suite 350, Sacramento, CA 95833; (916) 274-5721.

AVAILABILITY OF STATEMENT OF REASONS, TEXT OF THE PROPOSED REGULATIONS AND RULEMAKING FILE

The Board will have the entire rulemaking file available for inspection and copying throughout the rulemaking process at its office at the above address. As of the date this Notice of Proposed Action is published in the Notice Register, the rulemaking file consists of this Notice, the proposed text of the regulations, the Initial Statement of Reasons, supporting documents, or other information upon which the rulemaking is based. Copies may be obtained by contacting Ms. Shupe or Mr. Manieri at the address or telephone number listed above.

AVAILABILITY OF CHANGED OR MODIFIED TEXT

After holding the hearing and considering all timely and relevant comments received, the Board may adopt the proposed regulations substantially as described in this Notice. If the Board makes modifications which are sufficiently related to the originally proposed text, it will make the modified text (with the changes clearly indicated) available to the public at least 15 days before the Board adopts the regulations as revised. Please request copies of any modified regulations by contacting Ms. Shupe or Mr. Manieri at the address or telephone number listed above. The Board will accept written comments on the modified regulations for at least 15 days after the date on which they are made available.

AVAILABILITY OF THE FINAL STATEMENT OF REASONS

Upon its completion, copies of the Final Statement of Reasons may be obtained by contacting Ms. Shupe or Mr. Manieri at the address or telephone number listed above or via the internet.

AVAILABILITY OF DOCUMENTS ON THE INTERNET

The Board will have rulemaking documents available for inspection throughout the rulemaking process on its web site. Copies of the text of the regulations in an underline/strikeout format, the Notice of Proposed Action and the Initial Statement of Reasons can be accessed through the Standards Board's website at <http://www.dir.ca.gov/oshsb>.