

# Memorandum

**Date:** June 05, 2015

**To:** Marley Hart, Acting Executive Officer  
Occupational Safety and Health Standards Board  
2520 Venture Oaks Way, Suite 350  
Sacramento, CA 95833

**From:** Juliann Sum, Chief  
Cal/OSHA



**Subject:** AB 2146. Occupational safety: firefighters: personal protective equipment.

Assembly Bill 2146 requires the Department of Industrial Relations to convene an advisory committee by January 1, 2016, to evaluate whether changes are needed to align certain safety orders relating to personal protective clothing and equipment for firefighters with standards promulgated by the National Fire Protection Association (NFPA).

The Division has composed possible starting language for the advisory committee to consider. The possible starting language contains amendments to Title 8 Article 10.1. Personal Protective Clothing and Equipment for Fire Fighters (sections 3401 through 3410).

See the attached Form 9 for the Division's recommendation.

## Cal/OSHA 9

State of California  
Department of Industrial Relations  
Division of Occupational Safety and Health

1. Date: June 05, 2015
2. Eng/IH: Eric Berg
3. Region/District/Unit: Research & Standards

### REQUEST FOR NEW, OR CHANGE IN EXISTING, SAFETY ORDER

4. Industry:

Firefighting

5. Proposal for New Safety Order or Change in Existing Safety Order:

Proposal for Change in Existing Safety Order. See Part 2

#### PART 1 NEW SAFETY ORDER

6. Hazard Description (include process, condition, machinery, equipment or product involved):

N/A

7. Recommended New Safety Order Language (Use any guidelines, standards or codes of work practices):

N/A

#### PART 2 CHANGE IN EXISTING SAFETY ORDER

8. Reason(s) for request (employer's appeal granted, advice of Legal Unit Staff, Safety Order needs clarification or other):

Assembly Bill 2146 requires the Department of Industrial Relations to convene an advisory committee by January 1, 2016, to evaluate whether changes are needed to align certain safety orders relating to personal protective clothing and equipment for firefighters with standards promulgated by the National Fire Protection Association (NFPA). The bill would require the committee to present its findings and recommendations to the Occupational Safety and Health Standards Board

by July 1, 2016, and require the board no later than July 1, 2017, to render a decision regarding the adoption of changes to the safety orders, or other applicable standards and regulations, in order to maintain alignment with the NFPA standards.

9. Section/Subsection reference to existing Title 8 Safety Order:

Subchapter 7. General Industry Safety Orders  
Group 2. Safe Practices and Personal Protection  
Article 10.1. Personal Protective Clothing and Equipment for Fire Fighters  
Section 3401 through 3410

10. Suggested change(s) to existing Safety Order (exact new wording):

**Article 10.1. Personal Protective Clothing and Equipment for Fire Fighters**

**§3401. Application.**

\* \* \* \* \*

**(c)(1) Personal Alarms.**

Every fire fighter engaged in interior structural fire fighting activities requiring the use of self-contained breathing apparatus shall be provided with a personal alarm device. Alarm devices ordered or purchased after January 1, 1986, shall meet the requirements of Section 3401(c)(3)(B) and NFPA 1982 (1983). Alarm devices ordered or purchased after July 1, 2017 shall meet the requirements of NFPA 1982 "Standard on Personal Alert Safety Systems (PASS)" 2013 Edition. Each alarm device ordered or purchased prior to January 1, 1986 shall meet the following minimum requirements:

\* \* \* \* \*

**§3402. Definitions.**

\* \* \* \* \*

Fire Fighting, Proximity. Specialized fire fighting operations that can include the activities of rescue, fire suppression, and property conservation at incidents involving fires producing high levels of radiant heat as well as conductive and convective heat.

\* \* \* \* \*

Turnout Clothing. Protective clothing consisting of a coat and trousers as specified in NFPA 1971 (1981) "Protective Clothing for

Structural Fire Fighting" or a protective garment consisting of a coat, trousers and coveralls as specified in NFPA 1971 "Standard on Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting" 2013 Edition except as modified by Section 3406(b) of these Orders.

\* \* \* \* \*

§3403. Head Protection.

\* \* \* \* \*

(b) Minimum Requirements, Structural Fire Fighting.

(1) Helmets ordered or purchased after July 1, 2017, for use in structural fire fighting shall meet the requirements for 'Structural Fire Fighting Protective Helmets' contained in NFPA 1851 "Standard On Selection, Care, And Maintenance of Protective Ensembles For Structural Fire Fighting And Proximity Fire Fighting" 2013 edition and NFPA 1971 "Standard on Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting" 2013 Edition.

~~(1)~~(2) Helmets ordered or purchased after January 1, 1988, for use in structural fire fighting shall be labeled as meeting the requirements contained in NFPA-1972 (1985) "Structural Fire Fighters' Helmets." While the helmets are in service:

\* \* \* \* \*

(c) Helmets ordered or purchased after July 1, 2017, for use in proximity fire fighting shall meet the requirements for 'Proximity Fire Fighting Protective Helmet' contained in NFPA 1851 "Standard On Selection, Care, And Maintenance of Protective Ensembles For Structural Fire Fighting And Proximity Fire Fighting" 2013 edition and NFPA 1971 "Standard on Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting" 2013 Edition.

\* \* \* \* \*

3404. Eye and Face Protection.

\* \* \* \* \*

(a)(2) In addition to the requirements of Section 3382, and wherever eye and face protection is not provided by the breathing apparatus facepiece, the face of the fire fighter engaged in structural fire fighting activities or proximity fire fighting activities shall be protected by one or more of the following means, or other equivalent methods when exposed to injurious heat or flame:

\* \* \* \* \*

(b) Face Shields. Face shields of plastic or glass shall meet the optical qualities, impact resistance and light transmission standards specified in either the ANSI Z87.1 (1979) or ANSI Z87.1 (1989, and revision Z87.1a-1989), "Practice for Occupational and Educational Eye and Face Protection", which are hereby incorporated by reference. Face shields constructed of other materials such as wire mesh, shall provide visibility not less than required by ANSI Z87.1. All face shields shall be capable of withstanding heat in accordance with the provisions of Section 3403(b).

(1) Face shields ordered or purchased after July 1, 2017 shall meet the requirements of ANSI/ISEA Z87.1-2010 "American National Standard Occupational and Educational Personal Eye and Face Protection Devices," NFPA 1851 "Standard On Selection, Care, And Maintenance of Protective Ensembles For Structural Fire Fighting And Proximity Fire Fighting" 2013 edition and NFPA 1971 "Standard on Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting" 2013 edition.

\* \* \* \* \*

#### §3406. Body Protection

(a) Body protection shall be provided for each fire fighter when exposed to the hazards of structural fire fighting or proximity fire fighting activity. Body protection shall consist of turnout clothing or an appropriate combination of a turnout coat, protective garments and protective clothing meeting the requirements of Section 3406(c).

~~(b) Turnout Clothing. Performance, construction, testing and certification of fire fighter turnout clothing shall meet the requirements of be at least equivalent to the requirements of National Fire Protection Association (NFPA) publication 1971 (1981), "Protective Clothing for Structural Fire Fighting," with the following permissible variations in those requirements:~~ Turnout Clothing ordered or purchased after July 1, 2017 shall meet the requirements of NFPA 1851 "Standard On Selection, Care, And Maintenance of Protective Ensembles For Structural Fire Fighting And Proximity Fire Fighting" 2014 edition and NFPA 1971 "Standard on Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting" 2013 edition. The following permissible variations are allowed for turnout clothing:

\* \* \* \* \*

#### §3407. Hand and Wrist Protection.

(a) Protective gloves shall be provided for each fire fighter when exposed to the hazards of structural fire fighting activity or proximity fire fighting activity. Such protective gloves shall be properly sized and suitable to the hazards encountered in fires and fire related emergencies. Protective gloves ordered or purchased after July 1, 2017 shall meet the requirements of NFPA 1851 "Standard On Selection, Care, And Maintenance of Protective Ensembles For Structural Fire Fighting And Proximity Fire Fighting" 2014 edition and NFPA 1971 "Standard on Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting" 2013 edition.

\* \* \* \* \*

#### §3408. Foot Protection

(a) Foot protection shall be provided in accordance with Section 3385 for fire fighters while engaged in structural fire fighting or proximity fire fighting activity.

\* \* \* \* \*

(c) Turnout Boots. Fire fighter turnout boots purchased or ordered before July 1, 2017 shall meet the requirements of MIL-B-2885D (5-23-73) and amendment dated 12-31-75.

(d) Fire fighter protective footwear ordered or purchased after July 1, 2017 shall meet the requirements of NFPA 1851 "Standard On Selection, Care, And Maintenance of Protective Ensembles For Structural Fire Fighting And Proximity Fire Fighting" 2014 edition and NFPA 1971 "Standard on Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting" 2013 edition.

(e)~~(d)~~ In addition to the requirements of Section 3408(a), protective footwear other than turnout boots shall also provide:

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#### §3409. Respiratory Protection.

\* \* \* \* \*

##### (2) Permissible Devices.

(A) Respiratory protective devices provided for and used by fire fighters in structural fire fighting activity and proximity fire fighting activity shall be limited to those types classified as self-contained breathing apparatus (SCBA), and combination breathing apparatus of the supplied-air positive-pressure type.

(1) SCBAs ordered or purchased after July 1, 2017 shall meet the requirements of NFPA 1981 "Standard on Open-Circuit Self-Contained Breathing Apparatus (SCBA) for Emergency Services" 2013 Edition

\* \* \* \* \*

(b)(1) Written Standard Procedures. The employer shall develop and implement comprehensive written standard operating procedures for the use, care, maintenance, and training relating to respiratory protective equipment in accordance with Section 5144 and ANSI Z88.2 (1980~~2015~~), "Practices for Respiratory Protection," and ANSI Z88.5 (1981), "Practices for Respiratory Protection for the Fire Service." The operating procedures required by this subsection are exempt from the prohibition of the use of contact lenses specified in ANSI Z88.2(1980~~2015~~) and ANSI Z88.5(1981).

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### §3410. Wildland Fire Fighting Requirements.

(a) Head Protection.

\* \* \* \* \*

(2) Helmets for fire fighters and emergency pick-up labor ordered or purchased after July 1, 2017 shall be Type 2, Class G or E and shall meet the requirements of ANSI/ISEA Z89.1-2014 "American National Standard for Industrial Head Protection" and NFPA1977 "Standard on Protective Clothing and Equipment for Wildland Fire Fighting" 2011 Edition.

(3)(2) Emergency Pick-up Labor. Head protection shall be provided for emergency pick-up labor in a hazardous environment on wildland fires and shall consist of structural fire fighting helmets or industrial hard hats or military helmet liners. Helmets and liners shall meet ANSI Z89.1 (1969) standards, and may be either Type 1 or 2, any Class.

(4)(3) Minimum Helmet Requirements. Configuration. ~~The h~~ Helmets purchased or ordered prior to July 1, 2017 shall conform to ANSI Z89.1 (1969) full brim (Type 1) Class D, or brimless with peak (Type 2) Class A, or structural fire helmets as specified in Section 3403. Provision shall be incorporated for attachment of accessories without shell penetration. Retention shall be provided by chin strap, nape strap or other equivalent means.

\* \* \* \* \*

(b) Eye and Face Protection. Employees exposed to eye or face injury hazards shall be protected in accordance with the provisions of Section 3382.

(1) Eye and face protection ordered or purchased after July 1, 2017 shall meet the requirements of ANSI/ISEA Z87.1-2010 "American National Standard for Occupational And Educational Personal Eye And Face

Protection Devices” and NFPA1977 “Standard on Protective Clothing and Equipment for Wildland Fire Fighting” 2011 Edition.

(c) Thermal Protection of the Ears and Neck. Protection against burns on the ear and neck shall be provided by one or more of the following means, or other equivalent methods, when fire fighters engaged in wildland fire fighting are exposed to injurious heat and flame: flared neck shield attached to brim of helmet; hood, shroud or snood; high collar with throat strap; protective face/neck shroud design requirements contained in NFPA1977 “Standard on Protective Clothing and Equipment for Wildland Fire Fighting” 2011 Edition. Fabric specified for this purpose shall be constructed and tested in accordance with the provisions of Section 3410(d) for body protection. Similar protection shall be provided emergency pick-up labor when exposed to injurious heat and flame.

(d) Body Protection.

(1) Protective clothing ordered or purchased after July 1, 2017, shall meet the requirements of NFPA1977 “Standard on Protective Clothing and Equipment for Wildland Fire Fighting” 2011 Edition shall be provided to and used by all employees participating in containing and controlling wildland fires.

~~(2)~~(1) Clothing directly exposed to fire environment and subject to flame impingement shall meet the requirements of Section 3406(c).

\* \* \* \* \*

(e) Hand and Wrist Protection.

(1) Protective gloves shall be provided for each wildland fire fighter, properly sized and suitable to the hazards encountered in wildland fire fighting activities. Fire fighters shall wear protective gloves whenever exposed to a hazardous environment that may cause injury to the hand or wrist.

(A) Protective gloves ordered or purchased after July 1, 2017 shall meet the requirements of NFPA 1977 “Standard on Protective Clothing and Equipment for Wildland Fire Fighting” 2011 Edition.

~~(B)~~(A) Minimum Requirements...

\* \* \* \* \*

(f) Foot Protection.

\* \* \* \* \*


(2) Protective footwear ordered or purchased after July 1, 2017 shall meet the requirements of NFPA1977 “Standard on Protective Clothing and Equipment for Wildland Fire Fighting” 2011 Edition.




(3)(2) Minimum Requirements...

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(g) Fire Shelters. A fire shelter shall be provided and made immediately available for every fire fighter when engaged in fire fighting activities in wildlands as defined in these orders. The fire shelter shall meet or exceed U.S. Department of Agriculture, Forest Service Specification for Forest Fire Shelter, 5100-320D. Effective July 1, 2017, fire shelters shall meet or exceed U.S. Department of Agriculture, Forest Service Specification for Forest Fire Shelter, 5100-C (August 22, 2011).

11.   
Signature of Requestor

12.   
Signature of Supervisor