

M e m o r a n d u m

Date: December 12, 2024

To: Millicent Barajas, Executive Officer
Amalia Neidhardt, Principal Safety Engineer
Occupational Safety and Health Standards Board

From: Victor Copelan, Senior Safety Engineer
Jason Denning, Principal Safety Engineer
Eric Berg, Deputy Chief of Health
Division of Occupational Safety and Health

Subject: Evaluation of Petition No. 606 to amend title 8 section 3216 regarding the use of pictograms in lieu of or in addition to an “EXIT” sign

1.0 INTRODUCTION

On August 28, 2024, the Division of Occupational Safety and Health (Cal/OSHA) received a petition from Mr. Carsten Jonas (Petitioner) proposing a change to title 8 section 3216.

The petitioner is requesting a change to title 8 subsection 3216 to allow the option to use the Internationally Standardized Pictogram specified in the International Organization for Standardization (ISO) 7010 standard.¹ Specifically, the petitioner proposes that pictogram(s) may be used in lieu of or in addition to an “EXIT” sign.

Labor Code Section 142.2 permits interested persons to propose new or revised standards concerning occupational safety and health and requires the Occupational Safety and Health Standards Board (Standards Board) to consider such proposals. California Labor Code section 147 requires the Standards Board to refer to Cal/OSHA for evaluation of any proposed occupational safety and health standard.

2.0 PETITIONER’S PROPOSAL AND BASIS FOR AMENDMENT OF TITLE 8 REGULATIONS

The petitioner requests to include the option to use an internationally standardized pictogram specified in ISO 7010 as a new subsection under title 8 section 3216. Below is the regulatory text proposed in

¹ International Organization for Standardization. ISO 7010:2019 Graphical symbols — Safety colours and safety signs — Registered safety signs. ISO Standard. <https://www.iso.org/standard/72424.html>

the petition:

Subchapter 7. General Industry Safety Orders
Group 1. General Physical Conditions and Structures Orders
Article 2. Standard Specifications

§3216. Exit Signs.

(d) Option To Use Internationally Standardized Pictogram. In lieu of or in addition to the word "EXIT", exit signs may contain the pictogram for an emergency exit as specified in Standard 7010 as published by the International Organization for Standardization. The pictogram shall be at least 6 inches in height.

The petitioner states that a pictogram symbol for an exit sign is internationally standardized and has been adopted by multiple countries over the past several decades including Canada, Australia, New Zealand and the United Kingdom. The petitioner asserts that pictographic exit signs are easily understandable by anyone regardless of the language they speak. This, the petitioner argues, would be particularly beneficial in locations such as airports and hotels where there may be a significant number of people who do not speak English. Additionally, the petitioner states that the directional arrow on internationally standardized pictograms is much larger than those on those used on textual exit signs.

3.0 APPLICABLE TITLE 8 REGULATIONS

Title 8 section 3216 of the General Industry Safety Orders includes requirements for luminance, lettering, location and lighting methods for exits signs. Subsection 3216(a) includes requirements for words used on exit signs to be in block letters at least six inches in height with lettering strokes of at least three-quarters of an inch. Existing signs may have lettering five inches in height provided principal strokes are at least one-half of an inch.

Subchapter 7. General Industry Safety Orders
Group 1. General Physical Conditions and Structures
Article 2. Standard Specifications

§3216. Exit Signs

(a) Luminance. Exit and directional signs shall have a luminance on the face of such signs of not less than 50 lux. The words used on such signs shall be in block letters at least 6 inches in height with a stroke of not less than 3/4 inch. Exception: Existing signs may have the word "EXIT" in lettering not less than 5 inches high with principal strokes of letters of not less than 1/2 inch. Letters shall be of such color or design as to be in strong contrast to the background of the sign. Arrows or other directional symbols shall be of equal visibility to that stipulated herein for letters.

4.0 APPLICABLE FEDERAL OSHA REGULATIONS

Federal OSHA addresses the requirements for exit signs in Title 29 Code of Federal Regulations sections 1910.35 and 1910.37. Subsection 1910.37(b)(2) states that each exit must be clearly visible and marked by a sign reading "Exit."

Subsection 1910.37(b)(7) requires exit signs to include the word "EXIT" in plainly legible lettering at least six inches high with principal strokes of at least three-quarters of an inch wide.

Occupational Health and Safety Standards
1910 Subpart E
Exit Routes and Emergency Planning

1910.37(b)(7)

Each exit sign must have the word "Exit" in plainly legible letters not less than six inches (15.2 cm) high, with the principal strokes of the letters in the word "Exit" not less than three-fourths of an inch (1.9 cm) wide.

Section 1910.35 states that OSHA will deem an employer demonstrating compliance with the exit-route provisions of the 2009 edition of the National Fire Protection Agency (NFPA) 101 Life Safety Code or the exit-route provisions of the 2009 edition of the International Fire Code to be in compliance with the corresponding requirements in sections 1910.34, 1910.36, and 1910.37.

Occupational Health and Safety Standards
1910 Subpart E
Exit Routes and Emergency Planning

1910.35

Compliance with alternate exit-route codes

OSHA will deem an employer demonstrating compliance with the exit-route provisions of NFPA 101, Life Safety Code, 2009 edition, or the exit-route provisions of the International Fire Code, 2009 edition, to be in compliance with the corresponding requirements in §§ 1910.34, 1910.36, and 1910.37 (incorporated by reference, see section § 1910.6).

5.0 APPLICABLE CONSENSUS STANDARDS

5.1 International Organization for Standardization 7010 Graphical Symbols – Safety colours and safety signs – Registered safety signs

The International Organization for Standardization (ISO) prescribes safety signs for the purposes of accident prevention, fire protection, health hazard information, and emergency evacuation in "*ISO 7010 Graphical Symbols – Safety colours and safety signs – Registered safety signs standard*." Section 5 Registered safety signs, includes the pictograms for exits illustrated in Figure 1 below.

ISO 7010:2019(en) Graphical symbols – Safety colours and safety signs –
Registered safety signs

Chapter 5. Registered Safety Signs



Figure 1. ISO 7010 Exit Pictograms

5.2 NFPA 101 Life Safety Code

The NFPA 101 Life Safety Code addresses construction, protection and occupancy features of buildings and

structures necessary to minimize danger to life from the effects of fire include safe egress. Chapter 7 of 2009 edition of NFPA 101 referenced by CFR 1910.35 includes egress requirements for new and existing buildings. Section 7.10.3.2 allows the use of internationally standardized pictograms to mark exits in compliance with NFPA 170 if approved by the authority having jurisdiction.

NFPA 101 Life Safety Code (2009)

Chapter 7 Means of Egress

Section 7.10.3.2

Where approved by the authority having jurisdiction, pictograms in compliance with NFPA 170 shall be permitted

5.3 National Fire Protection Association 170 Standard for Fire Safety and Emergency Symbols








The National Fire Protection Association (NFPA) addresses symbols used for fire safety, emergencies and associated hazards in the NFPA170 Standard for Fire Safety and Emergency Symbols. The 2024 edition of NFPA 170 includes general references and fire safety symbols required for fire prevention and visual alerting for fire and related safety emergencies in Chapter 4. Table 4.2 of Chapter 4 includes applicable symbols for making exits.

NFPA 170 Standard for Fire Safety and Emergency Symbols 2024 Edition

Chapter 4 Symbols for General Use





4.2 Symbols for General Use. The symbols for general use shall be as given in Table 4.2

Table 4.2 Symbols for General Use

Symbol	Characteristics	Application	Example
	Square field Background green Door opening white Image in green	The identification and location of an emergency exit	The location of exit for use in a fire emergency
	Painted version: Background color white Arrows red or black Backlit version: Doorway, arrows, and lettering in green or red	The identification and location of a route to an emergency exit	Progress to the right
	Painted version: Background color white Arrows red or black Backlit version: Doorway, arrows, and lettering in green or red	The identification and location of a route to an emergency exit	Progress up and to the right
	Painted version: Background color white Arrows red or black Backlit version: Doorway, arrows, and lettering in green or red	The identification and location of a route to an emergency exit	Progress down and to the right
	Painted version: Background color white Arrows red or black Backlit version: Doorway, arrows, and lettering in green or red	The identification and location of a route to an emergency exit	Progress forward
	Painted version: Background color white Arrows red or black Backlit version: Doorway, arrows, and lettering in green or red	The identification and location of a route to an emergency exit	Progress down
	Painted version: Background color white Arrows red or black Backlit version: Doorway, arrows, and lettering in green or red	The identification and location of a route to an emergency exit	Progress to the left


(continues)

Table 4.2 Continued

Symbol	Characteristics	Application	Example
	Painted version: Background color white Arrows red or black Backlit version: Doorway, arrows, and lettering in green or red	The identification and location of a route to an emergency exit	Progress up and to the left
	Painted version: Background color white Arrows red or black Backlit version: Doorway, arrows, and lettering in green or red	The identification and location of a route to an emergency exit	Progress down and to the left
	Square field Background green Door opening white Image in green For arrows: Square field Green arrow on white background or white arrow on green background	The identification and location of a route to be used in an emergency	The direction to a fire exit
	Square field Background green Door opening white Image in green International symbol of accessibility per ICC/ANSI A117.1, Accessible and Usable Buildings and Facilities	The identification of a route that leads to an emergency exit that is accessible to disabled users, as specified by ICC/ANSI A117.1, Accessible and Usable Buildings and Facilities	The location of a route toward a fire exit that is accessible to disabled users

(continues)

Table 4.2 Continued

Symbol	Characteristics	Application	Example
	Square field Background green Door opening white Image in green International symbol of accessibility per ICC/ANSI A117.1, Accessible and Usable Buildings and Facilities For arrows: Square field Green arrow on white background or white arrow on green background	The identification of a route that leads to an emergency exit that is accessible to disabled users	The location of the route toward a fire exit that is accessible to disabled users

5.4 California Building Code

The 2022 California Building Code includes requirements for exit signs in Section 1013 Exit Signs. Subsection 1013.6.1 requires plainly legible letters at least six inches high with principal strokes at least three-quarters of an inch wide. The word “EXIT” is required to contain letters at least two inches wide except for the letter “I” with spacing between letters of not less than three-eighths of an inch. Exit

pictogram signs are not included in the 2022 California Building Code.

California Building Code 2022 (Vol 1 & 2)

Section 1013 Exit Signs

1013.6 Externally Illuminated Exit Signs

Externally illuminated exit signs shall comply with Sections 1013.6.1 through 1013.6.3.

1013.6.1 Graphics

Every exit sign and directional exit sign shall have plainly legible letters not less than 6 inches (152 mm) high with the principal strokes of the letters not less than $\frac{3}{4}$ inch (19.1 mm) wide. The word "EXIT" shall have letters having a width not less than 2 inches (51 mm) wide, except the letter "I," and the minimum spacing between letters shall be not less than $\frac{3}{8}$ inch (9.5 mm). Signs larger than the minimum established in this section shall have letter widths, strokes and spacing in proportion to their height.

5.5 California Fire Code

The 2022 California Fire Code includes identical requirements for exit signs as the California Building Code in Section 1013 Exit Signs. Subsection 1013.6.1 requires plainly legible letters at least six inches high with principal strokes at least three-quarters of an inch wide. The word "EXIT" is required to contain letters at least two inches wide except for the letter "I" with spacing between letters of not less than three-eighths of an inch. Exit pictogram signs are not included in the 2022 California Fire Code.

California Fire Code 2022

Section 1013 Exit Signs

1013.6 Externally Illuminated Exit Signs

Externally illuminated exit signs shall comply with Sections 1013.6.1 through 1013.6.3.

1013.6.1 Graphics

Every exit sign and directional exit sign shall have plainly legible letters not less than 6 inches (152 mm) high with the principal strokes of the letters not less than $\frac{3}{4}$ inch (19.1 mm) wide. The word "EXIT" shall have letters having a width not less than 2 inches (51 mm) wide, except the letter "I," and the minimum spacing between letters shall be not less than $\frac{3}{8}$ inch (9.5 mm). Signs larger than the minimum established in this section shall have letter widths, strokes and spacing in proportion to their height.

5.6 International Fire Code

Section 1011 Exit Signs of the 2009 International Fire Code includes identical requirements for exit signs as included in Section 1013 the California Building Code. Subsection 1011.5.1 requires plainly legible letters at least six inches high with principal strokes at least three-quarters of an inch wide. The word "EXIT" is required to contain letters at least two inches wide except for the letter "I" with spacing between letters of not less than three-eighths of an inch. Exit pictograms are not included in the 2009 International Fire Code. Exit pictogram signs are not included in the 2024 International Fire Code.

2024 International Fire Code

Chapter 10 Means of Egress

Section 1011 Exit Signs

1011.5 Externally Illuminated Exit Signs

Externally illuminated exit signs shall comply with Sections 1013.5.1 through 1013.5.3.

1011.5.1 Graphics

Every exit sign and directional exit sign shall have plainly legible letters not less than 6 inches (152 mm) high with the principal strokes of the letters not less than $\frac{3}{4}$ inch (19.1 mm) wide. The word "EXIT" shall have letters having a width not less than 2 inches (51 mm) wide, except the letter "I," and the minimum spacing between letters shall be not less than $\frac{3}{8}$ inch (9.5 mm). Signs larger than the minimum established in this section shall have letter widths, strokes and spacing in proportion to their height.

6.0 CAL/OSHA ANALYSIS

6.1 ISO 7010 Pictograms Are Not Equivalent to NFPA 170

The petitioner proposes use of the emergency exit pictograms specified in the ISO 7010 standard. However, some of the pictograms included in ISO 7010 are not equivalent to those included in NFPA 170. The ISO 7010 standard allows for the use of a direction arrow alone while the NFPA 170 standard pictograms include both a directional arrow and a figure posed in a running stance. Federal OSHA regulations currently allow for exit pictograms included in the NFPA 170 standard via a reference to the 2009 NFPA Life Safety Code in CFR 1910.35. The ISO 7010 standard is not referenced directly by federal OSHA nor any other referenced standards. Therefore, the petitioner's proposal is not compliant with CFR 1910.35 and a resultant regulation would not be at least as effective (ALEA) as federal OSHA regulations. The use of ISO 7010 pictograms could also be confusing to building occupants who are accustomed to the NFPA 170 pictograms currently allowed by federal OSHA regulations.

6.2 The Petitioner's Proposal Is Not Necessary

The petitioner's proposal is not necessary to allow the use of exit pictograms. Title 8 subsection 3216(a) currently references directional signs and does not prohibit the use of exit pictograms. Additionally, the petitioner's proposed amendment does not require the use of exit pictograms but proposes them as an option which is currently allowed under title 8 regulations.

7.0 CONCLUSION

Cal/OSHA recommends that Petition file No. 606 be DENIED. If the Board decides to proceed with rulemaking, Cal/OSHA recommends a note be included in title 8 section 3216 similar to that included in section 1910.35 of federal OSHA regulations clarifying that pictograms for exits included in the NFPA 170 standard are permissible.

cc: Debra Lee, Cal/OSHA Chief
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